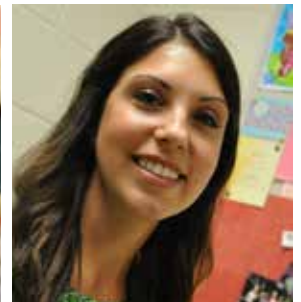


Operants

QUARTER II, 2016





**from the
president**



If you are a practitioner, what do you do if your usual procedures aren't working? Most of us ask others for help. The final authority, however, is not a supervisor or colleague. It is the underlying science. B. F. Skinner described science as "first of all an attitude. It is a disposition to deal with the facts, rather than what one has said about them." But what are "facts?" They are descriptions about how the world works. New discoveries may extend our understanding of phenomena. But one thing about science does not change: it does not include non-material agencies as causes of physical, biological, or behavioral events. As behavior analysts or as behaviorologists, we do not appeal to personality, selfishness, motivation, or other inferred "agencies" to explain behavior. These "agencies" do not consist of behavior. Behavior exists inside our skins of course. Like overt actions, internal behavior depends upon contingencies: the relation between existing actions, their results, and the circumstances in which those relations exist. If a procedure is not working, we do not attribute failure to an internal agency resisting change. We attribute lack of success to a set of contingencies that we need to change.

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

Arabic Translated by Nidal Daou

ماذا تفعل لو كنت ممارساً أو ممارسة في علم النفس أو تحليل السلوك التطبيقي، و الأساليب الاعتيادية لم تنجح؟ في ظروف كهذه، نلجأ للآخرين للمساعدة. المرجع الاخير فهو ليس المشرف(ة) على عملك او الزميل(ة). إذا المرجع الاخير فهو العلم الأساسي. قال ب. ف. سكينر: "إن العلم هو أولاً موقف. هو ترتيب يُستخدم لتعامل مع الحقائق و ليس مع ما قد يُقال عنها." و لكن ما هي هذه "الحقائق"؟ إنها كناية عن وصف عن كيف يسير العالم. اكتشافات جديدة قد توسع فهمنا للأحداث. و لكن هنالك شيء ثابت في العلم: العلم لا يستخدم عناصر غير مادية ليفسر الأحداث المادية، البيولوجية، او السلوكية. كمحلّي سلوك او كعالمي سلوك لا نناشد وجود الشخصية، الانانية، التحفيز، او "عناصر" اخرى مستدلة لنفس السلوك. تلك "العناصر" لا تتضمن السلوك. السلوك فهو طبعاً موجود داخلنا. مثل الأفعال الظاهرة. السلوك الداخلي يعتمد على الاحتمالات المشروطة: العلاقة ما بين الأفعال الموجودة، نتائجها، و الظروف التي تتيح الفرصة لتلك العلاقة. ان لم ينجح أسلوب ما، فلا نفسّر فشله بأن هنالك مقاومة داخلية ضد التغيير. بل نربط عدم نجاحه بمجموعة احتمالات شرطية و يجب علينا ان نغيّرها.

Chinese Simplified Translated by Kiwiya Zhang

作为一个从业者，如果你的常用方法不奏效了怎么办？大部分人会寻求别人的帮助。然而，最终的答案不在主管或同事那里，而在背后的科学里。B. F. Skinner将科学形容为“首先是一种态度，是处理事实的立场，而不是关于事实的说法。”那么什么是“事实”？事实对于世界如何运作的描述。新的探索也许会扩展我们对不同现象的理解，但有一点是不会变的：科学不会用非物质的要素来解释物理的、生物的或行为上的活动。作为行为学家或行为分析师，我们不使用个性、利己、动机或其它推理性的要素来解释行为，这些“要素”并不包含行为。当然行为是存在于我们皮肤里的，同外显的动作一样，内在行为也是由后效关联性决定的：行为、后果和环境的关系。如果一种应对方法不奏效了，我们不应将失效归咎于内在要素的阻挠，而应当更改一组后效关联来达到目的。

Chinese Traditional Translated by Chia-Yu Shih and Tina Wang

如果你是位治療師，發現你的例行程序無法達到預期效果，你會怎麼做？大部分的人會請求他人協助。然而，最後的裁定來自基礎科學而非主管或同事的建議。美國心理學家史納金(B. F. Skinner)形容科學：「首先，是一種態度。我們傾向用科學處理事實，而不是他人對於事實的評價。」但是，什麼是「事實」呢？事實闡明了世界是如何運轉的。新的發現增廣人類對於某些現象的瞭解。關於科學不會改變的是：科學不包括非物質媒介所導致的身體、生物或行為事件。身為行為分析師或是行為研究學家，我們不會揭露個性、自我、動機或是其他臆測的「媒介」來解釋行為。這些「媒介」不包括行為本身。當然，行為存在於我們的體內。如同外在的行為活動，內在行為取決於後效關係：存在動作和結果間的關係，及那些存在關係的狀態。如果例行程序無法順利達到預期效果，我們不能把失敗歸因於一個拒絕改變的內在媒介。我們把缺乏成功的經驗歸因於一套需要改變的後效關係。

Filipino Translated by Michael Abarca

Kung ikaw ay isang propesyonal, ano ang iyong gagawin kung ang dati mong mga pamamaraan ay hindi na gumagana? Ang karamihan sa atin ay humihingi ng tulong sa iba. Ang huling kinauukulan, gayunpaman, ay hindi superbisor o kasamahan. Ito ay ang kalakip na agham. Inilarawan ni B.F. Skinner ang agham bilang “una sa lahat pag-iisip. Ito ay disposisyon sa pakikitungo sa mga katotohanan, sa halip na kung ano ang mga patungkol sa katotohanan.” Ngunit ano nga ba ang “katotohanan”? Ito ay mga paglalarawan patungkol sa kung paano tumatakbo ang daigdig. Ang mga bagong tuklas ay maaaring palawakin ang ating karunungan sa pangyayari. Ngunit may isang bagay ang hindi nagbabago sa agham: hindi nito ibinibilang ang mga hindi materyal na pag-iisip bilang dahilan ng pisikal, byolohiko, o asal kaganapan. Bilang mga behavior analysts o bilang behaviorologists, hindi tayo umaapela sa personalidad, pagkamakasariili, motibasyon, o ibang paghihinuhang “pag-iisip” para ipaliwanag ang kilos. Ang mga “pag-uugali” na ito ay hindi bumubuo ng pag-uugali. Ang pag-uugali ay nangyayari sa loob ng ating mga balat, syempre. Tulad ng kilos pantao, dumidepende ang panloob na pag-uugali sa mga contingencies: ang relasyon sa pagitan ng mga umiiral na aksyon, ang mga resulta nito, at ang mga umiiral na pangyayari sa mga ganitong relasyon. Kung ang isang pamamaraan ay hindi gumagana, hindi tayo maghihinala sa pagkabigo ng panloob na pag-iisip na pumipigil sa pagbabago. Maghihinala tayo sa kakulangan ng tagumpay sa isang pangkat ng contingencies na dapat nating baguhin.

French Translated by MarieCelina Clemenceau

Si vous êtes un praticien, que faites-vous si vos procédures habituelles ne fonctionnent pas? La plupart d'entre nous demande de l'aide. L'autorité finale, cependant, n'est pas un superviseur ou un collègue. C'est la science sous-jacente. B. F. Skinner décrivait la science comme étant, « avant tout, une attitude. C'est une tendance à traiter les faits, plutôt que ce que l'on dit à leur sujet. » Mais que sont des « faits »? Ce sont des descriptions sur la façon dont le monde fonctionne. De nouvelles découvertes peuvent étendre notre compréhension de phénomènes, mais une chose à propos de la science ne change pas: elle ne comprend pas de pouvoirs non-matériels comme causes des événements physiques, biologiques ou comportementaux. En tant qu'analystes du comportement ou comportementologues, nous ne faisons pas appel à la personnalité, l'égoïsme, la motivation, ou d'autres “pouvoirs” inférés pour expliquer le comportement. Ces “pouvoirs” ne consistent pas en des comportements. Les comportements existent à l'intérieur de notre peau, évidemment. Comme les actions manifestes, les comportements internes dépendent de contingences: la relation entre les actions existantes, leurs résultats et les circonstances dans lesquelles ces relations existent. Si une procédure ne fonctionne pas, nous n'attribuons pas l'échec à un pouvoir interne résistant au changement. Nous attribuons le manque de succès à un ensemble de contingences que nous devons changer.

German Translated by Natalie Werner

Was machen Sie als Praktiker, wenn Ihre üblichen Verfahren nicht funktionieren? Die meisten von uns fragen andere nach Hilfe. Die letzte Autorität ist jedoch kein Supervisor oder Kollege. Es ist die hinter den Verfahren stehende Wissenschaft. B.F. Skinner beschrieb Wissenschaft als „vor allem eine Einstellung. It is a disposition to deal with the facts, rather than what one has said about them.“ Aber was sind „Fakten“? Sie beschreiben wie die Welt funktioniert. Neue Entdeckungen können unser Verständnis von Phänomenen erweitern. Aber eines an der Wissenschaft ändert sich nicht: sie enthält keine nicht-materiellen Kräfte als Ursache von physischen, biologischen oder behavioralen Ereignissen. Als Verhaltensanalytiker oder als behaviorologists berufen wir uns nicht auf Persönlichkeit, Egoismus, Motivation oder andere vermeintliche Wirkgrößen um Verhalten zu erklären. Sie bestehen selbst nicht aus Verhalten. Natürlich existiert Verhalten unter unserer Haut. Genau wie öffentliche Handlungen hängt internes Verhalten von Kontingenzen ab: der Beziehung zwischen Handlungen, ihrer Konsequenzen und den Umständen unter denen diese Beziehungen bestehen. Wenn ein Verfahren nicht effektiv ist, führen wir dies nicht auf eine interne Kraft zurück, die sich der Veränderung widersetzt. Wir führen das Ausbleiben des Erfolges auf eine Reihe von Kontingenzen zurück, die wir verändern müssen.

Greek Translated by Katerina Dounavi

Αν είσαι επαγγελματίας, τι κάνεις εάν οι συνήθειες διαδικασίες δε λειτουργούν; Οι περισσότεροι από εμάς ζητούν τη βοήθεια των άλλων. Η τελική αυθεντία, ωστόσο, δεν είναι ένας επόπτης ή συνάδελφος. Είναι η βασική επιστήμη. Ο B. F. Skinner περιέγραψε την επιστήμη ως «πρώτα απ'όλα μια στάση. Είναι μια προδιάθεση να ασχοληθεί κανείς με τα γεγονότα και όχι με αυτά που έχουν ειπωθεί γι'αυτά. “Αλλά τι είναι τα “γεγονότα”; Είναι περιγραφές για το πώς λειτουργεί ο κόσμος. Οι νέες ανακαλύψεις ίσως διευρύνουν το πώς κατανοούμε τα φαινόμενα. Αλλά ένα πράγμα για την επιστήμη δεν αλλάζει: δε συμπεριλαμβάνει μη υλικούς παράγοντες ως αιτίες των φυσικών, βιολογικών ή συμπεριφορικών συμβάντων. Ως αναλυτές συμπεριφοράς ή συμπεριφορολόγοι δεν απευθύνουμε έκκληση στην προσωπικότητα, τον εγωισμό, τα κίνητρα, ή άλλους τεκμαιρόμενους “παράγοντες” για να εξηγήσουμε τη συμπεριφορά. Αυτοί οι “παράγοντες” δεν αποτελούνται από συμπεριφορές. Η συμπεριφορά υπάρχει μέσα στο δέρμα μας, φυσικά. Όπως οι φανερές ενέργειες, έτσι κι η εσωτερική συμπεριφορά εξαρτάται από τις συναρτήσεις: τη σχέση μεταξύ των υπάρχουσών ενεργειών, των αποτελεσμάτων τους και των περιστάσεων στις οποίες αυτές οι σχέσεις υπάρχουν. Εάν μια διαδικασία δε λειτουργεί, δεν αποδίδουμε την αποτυχία σε κάποιον εσωτερικό φορέα που αντιστέκεται στην αλλαγή. Αποδίδουμε την έλλειψη επιτυχίας σε ένα σύνολο συναρτήσεων που χρειάζεται να αλλάξουμε.

Hebrew Translated by Shiri Ayzvo

כאיש מקצוע, מה תעשה אם ההליכים הרגילים שלך לא עובדים? רובנו מבקשים את עזרתם של אחרים. אולם הסמכות האחרונה איננה מפקח או קולגה, אלא יסודות המדע. ב. פ. סקינר תיאר מדע כייקודם כל גישה. זו נטייה לעסוק בעובדות, מאשר במה שאדם כזה או אחר אמר עליהם. אבל מהן “עובדות”? אלו הם תיאורים על האופן שבו העולם פועל. גילויים חדשים עשויים להרחיב את הבנתנו אודות תופעה. אבל דבר אחד על מדע אינו משתנה: מדע לא כולל פעילויות שאינן חומריות כסיבות לאירועים פיזיקליים, ביולוגיים או התנהגותיים. כמתחית התנהגות או כביהיורולוגים אין אנו פונים לאישיות, אנוכיות, מוטיבציה או “פעילויות” מוסקות אחרות בכדי להסביר התנהגות. “פעילויות” אלו לא כוללות התנהגות. וודאי שהתנהגות קיימת בתוך עורנו. בדומה לפעולות גליות, התנהגות פנימית תלויה בתלוייות: הקשר בין פעולות קיימות, תוצאותיהן והנסיבות בהן קשרים אלו מתקיימים. אם הליך לא עובד, איננו מייחסים את הכישלון לסוכנות או פעילות פנימית המתנגדת לשינוי. אנו מייחסים את היעדר ההצלחה לקבוצת תלוייות שעלינו לשנות.

Italian Translated by Anna Luzi

Se sei un professionista, cosa fai se i metodi che utilizzi di solito non funzionano? La maggior parte di noi chiede aiuto ad altri. Tuttavia la fonte più autorevole non può essere un supervisore o un collega, ma è la scienza stessa che sta alla base dei metodi.

B. F. Skinner ha descritto la scienza come “prima di tutto un atteggiamento, una disponibilità a confrontarsi con i fatti piuttosto che quello che si dice sui fatti”. “Ma cosa sono “i fatti”? Sono descrizioni di come funziona il mondo. Le nuove scoperte possono ampliare la nostra comprensione dei fenomeni. Ma su una cosa la scienza non transige: non contempla entità immateriali come cause di eventi fisici, biologici o comportamentali. Come analisti comportamentali o come comportamentisti noi non facciamo ricorso alla personalità, all'egoismo, alla motivazione, o ad altri “agenti” per spiegare il comportamento. Questi “agenti” non danno origine al comportamento. Il comportamento origina da noi, dall'interazione della nostra persona in carne e ossa. Come l'azione manifesta, anche il comportamento interno dipende dalle contingenze: esse sono il rapporto tra azioni, risultati e circostanze in cui questo rapporto si verifica. Se un metodo non funziona, noi non ne attribuiamo il fallimento ad un agente interno che resiste al cambiamento. Attribuiamo invece la mancanza di successo ad un insieme di contingenze che dobbiamo cambiare.

Japanese Translated by Naoki Yamagishi

もしあなたが実践家だったら、いつものやり方がうまくいかないときどうしますか。私たちの多くは誰かに助けを求めます。しかし最終権限は管理者にも同僚にもありません。これは科学の根源に関わることです。B. F. Skinnerは科学について「まず、態度である。それは事実を扱う気質であり、それについて誰かが言ったことではない」といっています。しかし何が「事実」なのでしょう。「事実」は世界がどのように作用するかについての記述です。新発見は現象の理解を拡張するでしょう。しかし科学についてのあるものは変化しません。それは非物質的な仲介物を物理的、生物学的、行動的事象の原因として含みません。行動分析家あるいは行動学者 (behaviorologists) としては、私たちは行動を説明するために、性格、利己主義、動機や他の推測される「仲介物」に頼りません。これらの「仲介物」は行動を構成するものではありません。行動はもちろん私たちの皮膚の内側にも存在します。外顕的行動のように内潜的行動も随伴性に依存しています。その随伴性は、生じた行動、その結果、それとそれらの関係が生じた環境の間の関係です。もしあるやり方がうまくいかない場合、私たちはその原因を、変化に抵抗する内的な仲介物に帰属させません。私たちは、うまくいかないのは私たちが変化させるべき随伴性を用意できていないからだと考えます。

Korean Translated by Yunhee Shin

만약 당신이 전문직 종사자인데, 평상시와 같은 절차대로 일이 해결되지 않는다면, 당신은 어떻게 하겠습니까? 많은 사람들은 다른사람들에게 도움을 요청할 것입니다. 그러나 도움요청의 마지막은 슈퍼바이저나 혹은 동료들은 아닐겁니다. 이것에는 과학적인 근거가 있습니다. B.F.Skinner는 “모든 것에 우선은 태도. 그 문제에 대해 말하는 사람들보다 팩트를 다루는 자세에 있다”는 것으로써 과학을 설명하였습니다. 그러면 “팩트”라는 것은 무엇일까요? 팩트는 어떻게 세상이 작동하는가에 대한 설명입니다. 현상에 대한 우리의 이해를 늘리는 것은 새로운 발견이 될 것입니다. 그러나 과학에 대한 한가지는 변하지 않습니다. : 그것은 신체적, 생리적 또는 행동적 사건들의 원인들로서 비물질적인 우리의 능력을 포함하지 않는 것입니다. 행동분석가로서 또는 행동주의자로서 우리는 인격이나 이기심, 동기 또는 다른 행동을 설명하는 능력들에 어필하지 않습니다. 이러한 능력들은 행동의 요소가 아닙니다. 행동은 물론 우리의 피부안에 존재합니다. 마치 명시적인 행동들, 결과로써 일어나는 행동과 관계들이 존재하는 환경사이에서의 관계들인 유관성에 의존하는 내재적 행동처럼 말입니다. 만약 절차대로 일이 잘 되지 않는다면, 우리는 변화에 저항하는 내적인 능력 실패의 결과로 보지 않습니다. 우리는 성공하지 못한 것을 우리가 변해야 할 유관들에 기인한다고 봅니다.

Norwegian Translated by Karoline Helgesen

Om du jobber anvendt, hva gjør du om dine vanlige prosedyrer ikke virker? De fleste av oss ber andre om hjelp. Den endelige autoritet ligger dog ikke hos en veileder eller en kollega. Den ligger i den underliggende vitenskapen. B.F. Skinner beskrev vitenskapen som «først av alt en holdning. En tilbøyelighet til å forholde seg til fakta, snarere enn hva man har sagt om dem». Men hva er «fakta»? Det er beskrivelser av hvordan verden fungerer. Nye oppdagelser kan utvide vår forståelse av fenomener. Men en ting ved vitenskapen endres ikke: Den inkluderer aldri ikke-materialistiske tilstander som årsaker til fysiske, biologiske, eller atferdsmessige hendelser. Som atferdsanalytikere eller atferdsvitere (behaviorister) appellerer vi ikke til personlighet, egoisme, motivasjon eller andre antatte tilstander for å forklare atferd. Disse merkelappene refererer ikke til noen bestemt atferd. Atferden eksisterer selvsagt, under huden på oss. Som observerbare handlinger, avhenger også indre atferd av kontingenser; relasjonen mellom eksisterende handlinger, deres resultater, og omstendighetene disse relasjonene eksisterer i. Om en prosedyre ikke virker, tilskriver vi ikke resultatet til en indre tilstand eller merkelapp som motsetter seg endring. Vi tilskriver manglende suksess til et sett av kontingenser som må endres.

Polish Translated by Monika Suchowierska-Stephany

Jeśli jesteś praktykiem, co robisz jeśli zazwyczaj przez Ciebie stosowane techniki nie przynoszą efektu? Większość z nas w takiej sytuacji zwraca się do drugiej osoby z prośbą o pomoc. Jednakże ostatnią „instancją” nie powinien być bardziej doświadczony współpracownik lub superwizor. Powinna nią być nauka. B.F. Skinner opisał naukę jako „przede wszystkim określoną postawę. Jest to skłonność do odwoływania się do faktów, a nie do tego, co ktoś o tychże faktach powiedział”. Ale czym są „fakty”? Fakty charakteryzują procesy, zachodzące we wszechświecie. Nowe odkrycia mogą poszerzyć rozumienie pewnych fenomenów, natomiast tym, co w nauce pozostaje niezmiennie, jest brak przyjmowania hipotetycznych czynników za przyczyny zdarzeń fizycznych, biologicznych lub behawioralnych. Jako analitycy zachowania albo behawiorolodzy nie odwołujemy się do osobowości, samolubstwa, motywacji i innych domniemyanych czynników, aby wyjaśnić zachowanie. Zachowanie nie jest częścią tych podmiotów. Zachowanie ma oczywiście miejsce „po drugiej stronie” (czyli po stronie wewnętrznej) naszej skóry. Podobnie jak widoczne, publiczne aktywności, również niewidoczne, „wewnętrzne” zachowania podlegają konkretnym zależnościom: relacjom pomiędzy aktywnością, jej rezultatem i okolicznościami, w których dana aktywność ma miejsce. Jeśli stosowana przez nas technika nie przynosi oczekiwanych rezultatów, nie winimy hipotetycznego czynnika utrudniającego zmiany. Raczej przypisujemy brak sukcesu zależnościom, których nie wzięliśmy pod uwagę, a które musimy zmienić.

Portuguese Translated by Rafael Picanco

Se você está atuando em uma área aplicada, o que você faz se os seus procedimentos usuais não estão funcionando? A maioria de nós pede a ajuda de outros. A autoridade final, entretanto, não é um supervisor ou colega de trabalho. É a ciência subjacente. B. F. Skinner descreveu ciência como “antes de tudo, uma atitude. Ela é uma disposição para lidar com fatos, ao invés do que se tem dito sobre eles”. Mas o que são “fatos”? Eles são descrições sobre como o mundo funciona. Novas descobertas podem estender nossa compreensão dos fenômenos. Mas uma coisa sobre a ciência não muda: ela não inclui entidades não-materiais como causas de eventos físicos, biológicos ou comportamentais. Como analistas do comportamento ou como comportamentologistas (behaviorologists), nós não apelamos para personalidade, egoísmo, motivação, ou outras entidades inferidas para explicar o comportamento. Essas entidades não se constituem de comportamento. Comportamento existe dentro de nossa pele, certamente. Como ações abertas, comportamento interno depende de contingências: a relação entre as ações existentes, seus resultados, e as circunstâncias nas quais essa relação existe. Se o procedimento não está funcionando, não atribuímos as falhas a uma entidade interna resistente a mudança. Nós atribuímos falta de sucesso a um conjunto de contingências que nós precisamos mudar.

Russian Translated by Alexander Fedorov

Если вы практик, как вы поступите, если ваши обычные процедуры не работают? Большинство из нас обратится за помощью к другим. Однако, окончательный авторитет – вовсе не начальник или коллега. Это лежащая в основе наука. Б. Ф. Скиннер описывал науку как «прежде всего, отношение. Это предрасположенность иметь дело с фактами, а не с тем, что о них говорят». Но что такое «факты»? Это описания того, как функционирует мир. Новые открытия могут расширить наше понимание явлений. Но одна вещь, касающаяся науки, остается неизменной: она не включает в себя нематериальные силы, выступающие в качестве причин физических, биологических или поведенческих событий. Как поведенческие аналитики или бихевиорологи мы не апеллируем к личности, себялюбию, мотивации или другим воображаемым «силам», объясняющим поведение. Эти «силы» – не поведение. Конечно, существует поведение и под нашей кожей. Как и открытые действия, внутреннее поведение зависит от контингенций: связи между существующими действиями, их результатами и обстоятельствами, в которых эти отношения существуют. Если процедура не работает, мы не связываем неудачу с внутренней силой, сопротивляющейся изменению. Неудачу мы связываем с набором контингенций, которые необходимо изменить.

Spanish Translated by Gonzalo Fernández, Kenneth Madrigal

¿Si tu eres un practicante, que haces cuando tus procedimientos típicos no funcionan? La mayoría de nosotros buscamos la ayuda de otros. La autoridad final, sin embargo, no es un supervisor o compañero de trabajo. Es la ciencia. B.F. Skinner describió que la ciencia es “primeramente una actitud. Es una disposición para hacer frente a los hechos, en lugar de lo que se ha dicho acerca de ellos.” Pero cuales son los “hechos”? Son descripciones en lo cual trabaja el mundo. Los nuevos descubrimientos pueden extender nuestra comprensión de los fenómenos. Pero una cosa de la ciencia que no cambia; que no incluye los organismos materiales como causas de los fenómenos físicos, biológicos, o de comportamiento. Como analistas de conducta, no apelamos a la personalidad, el egoísmo, la motivación, u otras “agencias” inferidos para explicar el comportamiento. Estas “agencias” no consisten en el comportamiento. El comportamiento existe dentro de nuestra piel, por supuesto. Al igual que acciones abiertas, comportamiento interno depende de las contingencias: la relación entre las acciones existentes, sus resultados y las circunstancias en las que existen esas relaciones. Si un procedimiento no está funcionando, no atribuimos la falta de un cambio a la resistencia de la agencia interna. Atribuimos la falta de éxito a un conjunto de contingencias que tenemos que cambiar.

Swedish Translated by Dag Strömberg

Om du är en praktiker, vad gör du om dina vanliga procedurer inte fungerar? De flesta av oss ber andra om hjälp. Den slutliga auktoriteten är dock inte en handledare eller en kollega. Det är den bakomliggande vetenskapen. B. F. Skinner beskrev vetenskapen som “i första hand en attityd. Det är en benägenhet att hantera fakta, snarare än vad en har sagt om dem.” Men vad är “fakta”? De är beskrivningar av hur världen fungerar. Nya upptäckter kan utvidga vår förståelse av fenomen. Men en sak beträffande vetenskapen förändras inte: den inbegriper inte icke-materiella organ som orsaker till fysiska, biologiska eller beteendemässiga händelser. Som beteendeanalytiker eller som “behaviorologists” hänvisar vi inte till personlighet, själviskhet, motivation eller andra härledda “organ” för att förklara beteende. Dessa “organ” består inte av beteende. Beteende existerar under vår hud, förstås. Liksom öppna handlingar beror inre beteenden på kontingenser: relationen mellan existerande handlingar, deras resultat och omständigheterna under vilka dessa relationer existerar. Om en procedur inte fungerar, tillskriver vi inte misslyckandet ett inre organ som motstår förändring. Vi tillskriver bristande framgång en uppsättning av kontingenser som vi behöver förändra.

Turkish Translated by Hande Cihan

Eğer bir uygulamacıysanız, her zaman uyguladığınız uygulamalar işe yaramazsa ne yaparsınız? Bu durumda, birçoğumuz yardım isteriz. Oysaki, gerçek otorite bir süpervizör yada meslektaşımız değildir. Gerçek otorite, uygulamaların dayandığı bilimdir. B. F. Skinner, bilimi “öncelikle bir tavır, bir kişinin ne söylediği ile değil, durumların kendisiyle ilgilenen bir eğilim” olarak tanımlamıştır. Peki ama bu “durumlar” neledir? Dünyanın nasıl işlediği ile ilgili tanımlardır. Yeni keşifler fenomenleri anlamamızı geliştirebilir. Ama bilimle ilgili değişmeyen tek şey, fiziksel, biyolojik ya da davranışsal olayların nedenleri olarak maddi olmayan faaliyetler içermediğidir. Davranış analisti yada davranışçı olarak kişiliğe, bencilliğe, motivasyona ya da diğer “maddi” anlamına gelen faaliyetlere başvurmayız. Bu “maddi faaliyetler” davranıştan oluşur. Elbette davranış bedenimiz içinde vardır. Aleni olan davranışlarımız gibi, içsel davranışlarımız da koşullara yani eylemler arasındaki ilişki, sonuçları ve bu ilişkilerin var olduğu durumlara göre değişir. Eğer bir uygulama işe yaramıyorsa, başarısızlığı değişmeyi reddeden içsel bir faaliyete bağlamayız. Başarısızlığı, değiştirmemiz gereken koşullara bağlarız.



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Recently, *Operants'* two associate editors from Brazil, Monalisa Leão and Bruna Colombo dos Santos, and I, scheduled a time with Dr. Darlene Crone-Todd at Salem State University (SSU) for a visit. Starting in October, Darlene made *Operants* a part of her class discussion, and we wanted to meet her students, all of whom became our subscribers. The weather was pretty close to perfection for early March, nearing 70 degrees. When we arrived, Darlene and her graduate student, Katie, greeted us. They introduced us to Dr. Carlos Aparicio who runs the rat lab for both their undergraduate- and graduate-level students. Dr. Aparicio showed us the lab, the operant-conditioning boxes, and the strains of rats that he is using in his research. He is doing very refined research in behavior analysis, studying themes like choice and connections between response and reinforcement. It seems like a rich environment for the undergraduate and the graduate students to learn in, and we know that it is wonderful to have experience with basic experimental research: it gives an important background for any behavior analyst.

After being introduced to Dr. Aparicio and the lab, we went to Darlene's class to talk with her students about *Operants*. We had a great time and great pizza! It is important for us to hear from our audience, as it helps *Operants* to get better. It is even more interesting to hear from the younger audience, the students, since they represent the future of our field. The class talked about the articles they appreciated and the improvements they would like to see. More specifically, the students enjoyed the variability in *Operants* and suggested such themes as development of behavior analysis in other countries. Another one of their suggestions is to have a "Career Corner." The "Career Corner" would introduce people who have applied our science to new careers that are outside the usual path of our field. In this edition, we highlight two women, one who is learning about behavior analysis as a lawyer from Israel and another as an instructional engineer from the United States. We thank the students from Darlene Crone-Todd's class at SSU for the wonderful idea of the "Career Corner!"

After the meeting, we stayed for Darlene's class. They discussed a paper and experimental designs. It was a great experience for all of us and we hope we have more opportunities like this in the future. If you are interested in introducing *Operants* into your graduate class's regular reading work, please feel free to contact me at s.habarad@bfskinner.org. It is great to meet our audience (or at least part of it); it helps *Operants* and us, as behavior analysts, to get better.

Sheila Habarad
Editor-in-Chief
with

Monalisa Leão and Bruna Colombo dos Santos
Associate Editors, the Americas



Dr. Crone-Todd's class



Monalisa Leão and Dr. Aparicio



The rat lab



profile

Dr. Margaret Vaughan: I see the World Through the Lens of Behaviorism



Interview by Sheila Habarad
Editor-In-Chief, *Operants*



Margaret Vaughan attended St. Cloud State University where she received her undergraduate degree and Western Michigan University for her MA and PhD in behavior analysis. She taught at Kalamazoo College and Salem State University. For more than a decade she worked as a behavioral consultant to hundreds of elementary and secondary teachers on the north shore of the Greater Boston area. She was appointed editor of *The Behavior Analyst* and later the *Sextant*, *Journal of Salem State University*. For several years she served as chair of the Massachusetts State College Association grievance committee. Her interests include verbal behavior, self-management, conditioned reinforcement, and rule-governed behavior.

Her books include *Enjoy Old Age* (co-authored with B.F. Skinner) and an e-book *Aging Gracefully* (with K. Stephens).

Where did you attend college, and where did your career take you from there?

I attended St. Cloud State University and majored in Psychology and Sociology. Subsequently, I received my M.A. and Ph.D. at Western Michigan University, with a major in behavior analysis.

As an undergraduate at St. Cloud State University, I took an animal lab course, using Sidman's text *Tactics of Scientific Research* and loved it. Actually observing in real time the lawful relation between behavior and consequence was an epiphany.

Having taken the animal lab course, I knew I wanted to major in psychology so that I could take a sequence of behavior analysis courses. I also took a course in child development taught by a woman, another epiphany: women could become professionals. After a year working as a rehab counselor for a special-needs workshop in Minneapolis, it was clear that I needed to go back to school for a graduate degree. But I also wanted to learn as much as I could about the field of behavior analysis before applying. So I signed up for a few courses with Jerry Mertens at St. Cloud, hoping for a good letter of recommendation. A year later, I was accepted into the M.A. program in Behavior Analysis at Western Michigan University and then the newly created PhD program two years later. While at Western, I worked with Howard Farris as a teaching assistant, worked in Art Snapper's animal lab running experiments for my master's thesis, and worked with Dick Malott to help establish MABA, now ABAI. I studied under Howard Ferris, Art Snapper, and Jack Michael. I still have my handwritten (!) notes from JEAB I, JEAB II, Verbal Behavior, and Aversive Control. Many wonderful courses, so many wonderful memories, and so many wonderful friends who still keep in touch. It was one of the most exciting times of my life.

I went on to teach at Kalamazoo College and then was offered a one-year position as a post-doctoral fellow at Harvard University where I helped B. F. Skinner bring together his materials for his last volume of his autobiography. I then was hired as a research associate where I co-authored a book with Skinner called *Enjoy Old Age*. Eventually, I was hired to teach courses in child development and intro psychology at Salem State University. While there, I opened a small animal lab and designed a few courses on behavior analysis and Skinner's writings. After almost 30 years of teaching, it became clear to me I needed to retire and do the one thing I had always wanted to do but never found the time. I wanted to start writing on my own, which is what I do today. Perhaps someday, some of my writings will actually turn into a book or article.

Behaviorism has impacted my life in every possible way. It is a part of me and the lens through which I see the world.

How did you meet Skinner?

I first met Skinner at an APA meeting in Toronto, Ontario. Shortly thereafter, he visited Western Michigan University to give a talk. We had a chance to have a wonderful lengthy conversation about the science of behavior at which time he asked if I would be willing to move east and help him with his final volume of his autobiography.

Describe your time working with Skinner as his research associate.

As I mentioned, my first year was as a post-doctoral fellow and then I was given the title of research associate for two years. It was a fascinating time, working with the founder of radical behaviorism. He started holding weekly meetings he called "pow-wows" where a group of people met once a week to

talk about some aspect of behavior analysis. It was during this time that I met people like Murray Sidman, Herb Terrace, Jerry Zuriff, Peré Julia, and my future husband, Will Vaughan. Ironically, though, much of what Skinner taught me was a love for the arts, music, and literature. It was a wonderful education, and one I cherish.

What is the present position of behavior analysts towards cognitive science, and what are the critical points still to be addressed? What are your thoughts about the cognitive-behavioral approach?

At one time, those would have been much easier questions to answer. The distinction between functionalists and structuralists would have been sufficient at least for me. But today, all of psychology has become much more complex and intertwined. Recently, reading a book on the future of higher education, I learned that the “learning scientists” working to change the educational model are a mixture of computer scientists and cognitive psychologists. It appears that cognitive science is attempting to make inroads on learning via the computer. Not surprisingly, they have not had much success. But neither have behavior analysts; we seem not to be noticed by the rest of psychology anymore. Learning theory is a thing of the past. We have so much to offer the field of education but just can’t seem to have an impact. Educators don’t talk to us, and we don’t talk to educators.

As for cognitive-behavioral approaches, I think they are having some success in clinical settings. I don’t always like the way they talk about private events, but private events do matter and are real. As I see it, cognitive behaviorists in most respects are simply radical behaviorists using everyday terms to help troubled people.

In the behaviorist community, there are difficulties in understanding, or worse, accepting the concepts of radical behaviorism. Part of the reason is due to technical aspects such as operant conditioning, schedules of reinforcement; and so on. Cultural conceptions and practices are another aspect along with religion and law institutions that are impervious to any shift in view and practice.

I find this hard to believe. How can anyone consider him or herself a behaviorist and not accept and understand operant conditioning or schedules of reinforcement? It is the backbone and foundation of radical behaviorism as a philosophy. Without an understanding of the experimental work in the field, how can one possibly move beyond cookbook solutions to problems? They only work under textbook conditions. One has to understand—talk about and explain—the foundations of behavior analysis to be able to successfully work in unique and complicated situations.

As for cultural practices, law enforcement, and religiosity, I don’t see how we can ever make a difference if we can’t even influence educators. As you can see, I’m not optimistic.

Are there more effective approaches to face this problem?

As a colleague Ron Van Houten recently said, “You have to be at the table.” Behavior analysts spend most of their time talking to other behavior analysts. Unfortunately, that does not put us at the table. We have grown far too insular and have done so at our peril.

Public schools are reluctant in adopting behav-

ior analysis in methodology. Are there private institutions where the practice is used with success?

Absolutely. But they are few in number. It takes a great deal of hard work and a great deal of capital to establish independent institutions that are rooted in behavior analysis. And much of the hard work is finding qualified behavior analysts. Apparently, certification does not seem to make that work any easier.

If the application is successful, why is it not spreading?

Because it takes a great deal of work learning the field of behavior analysis and then persuading others to accept such a radical departure from customs that have been imbedded in our culture for generations.

What has been Skinner’s greatest legacy in education?

Articulating the science of behavior and, in particular, the concept of contingencies of reinforcement. I believe the teaching machine exemplified the science and the role of contingencies in education. Unfortunately, it was revolutionary and appeared to be too structured or radical for the uninitiated.

Skinner often spoke of behavior science and the philosophy of that science, hoping there would follow an increase in research both in amplitude and complexity. Do you think there has been a reverse of the desirable situation with a preoccupying shortage of laboratory work?

Not necessarily. I think that the field has bifurcated so many times that we have lost sight of the objective: changing the world. We need behavioral teachers, behavioral computer scientists, behavioral engineers, behavioral politicians, and behavioral lawyers and judges, just to name a few. We can’t simply work with autistic children and think that we are changing the world. It doesn’t generalize to other problems facing our culture.

The dissemination of behavior analysis is occurring, maybe not at the rate that we would like to see. Nonetheless, our science is spreading across disciplines and countries. Do we have better chances of integrating with other sciences and disciplines to produce a more effective science of socially helping?

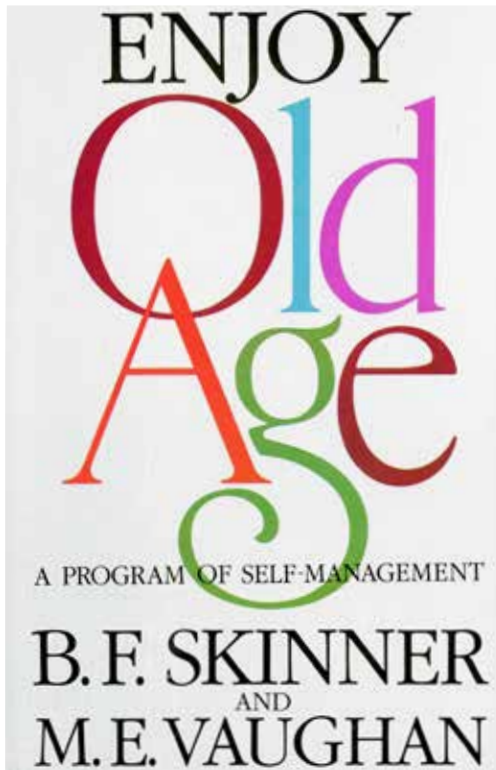
You sound more optimistic than I am. Yes, ABAI is growing. But change is occurring very slowly and only in isolated situations. I think of the clever work of Bart Weetjens, and later Al Poling, in training rats to find landmines and to sniff out tuberculosis in saliva. But where is the generalization? Think of what rats could possibly help uncover in the medical world or in the fight against terrorism? We have certainly helped children with developmental disabilities and with autism. But the world is so much bigger than that. We must work with other sciences and disciplines to produce a more lasting cultural effect.

Do you have any favorite writings or books of Skinner’s that you’d like to share with the readers? If yes, which one and why?

Science and Human Behavior has probably had the greatest impact on me. But his graduate work at Harvard was remarkably insightful (e.g., *The Behavior of Organisms*): distinguishing between operant and respondent behavior by way of the different effectors involved was brilliant. And his later

distinction between contingency-shaped and rule-governed behavior (too many sources to list) helped me come to understand the complicated relation between saying and doing and how one can come to develop, albeit fragilely, verbal

control over non-verbal behavior. In other words, self-control and self-management. Finally, I'd have to list *Enjoy Old Age*, which becomes more meaningful each passing year. 🌈



Credit: William Vaughan, Jr.

Not everyone goes early to bed and is early to rise, but almost everyone wants to be healthy, wealthy, and wise. We have left health and wealth to others. What can we say about wisdom? Certainly it is one of the qualities most often admired in old people, and in part just because they are old. They have been around a long time. They were 'not born yesterday.' They are seasoned, aged in the wood. They "know the road." The name of the Roman governing body was *senatus*, from *senex*, meaning "old," and many religions speak of those who hold important positions as "elders." The aldermen you may have voted for were once called eldermen.

Unfortunately, technological progress has robbed everyone, old and young alike, of the chance to serve as a repository of wisdom. In Plato's *Phaedrus*, Thamus complains of the invention of the alphabet. Henceforth, he says, people will seem to know things that they have only read about. The human race would not have gone very far if it had confined itself to personal knowledge, but it has, so to speak, moved knowledge almost completely out of heads and into books—and now, of course, into computers. Before the invention of writing, and then of printing, knowledge was transmitted orally, and mainly from old to young, but that has changed. Young people no longer turn to old artisans to learn their trade; they go to technical schools or agricultural colleges. They no longer listen to troubadours to learn the history of their race or nation; they read history. The sacred words of religion, once chanted by holy men, are now found in "scripture"—scrolls and bibles, pre- or post-Gutenberg. People are needed only when they possess the kind of knowledge that cannot yet be transmitted through books. We go to a doctor rather than a book when we are ill, to a violinist to study the violin, to a painter to study painting, to a coach to learn a sport. Some old people, too, are specialists in fields in which books have not wholly taken over.

Your grandchildren will probably not ask for your advice about choosing an occupation; they will talk with educational or career counselors. They may not even ask you what life was like when you were young; the curious old telephones, the old cars that were started with a crank, the funny clothes people wore, the absurd ways they danced—all these can be seen on late-night television. Perhaps you can recount a bit of family lore or some community history that has not been put into print, but the number of your listeners will be small.

The wisdom that is valued most in old people concerns old age itself. If you are really enjoying your life in spite of imperfections, you may find yourself an authority. People will come to you to learn your secret, and you would be churlish not to divulge it.

Dr. Janet Twyman: We Are Not Preparing Behavior Analysts for the Jobs the World Needs Them to Take



Interview by Adam Hockman



For as long as I can remember I wanted to be a teacher. As a little girl in kindergarten, I wanted to be a kindergarten teacher, then a first grade teacher, and so on. It was completely natural for me to go into education as my field, even though I explored majors in English and landscape architecture. I grew up in Kentucky and naturally went to the University of Kentucky, it is probably one of the most fortuitous aspects of my life.

I majored in elementary education but was disappointed by how loose or “touchy-feely” everything seemed. At a friend’s encouragement, I sat in on one of her special-ed classes, which turned out to be an ABA course taught by George Sugai. I remember sitting in that class mesmerized, and I decided that was it. I made an appointment with George and transferred to the special education department. Although George left the University of Kentucky ..at the end of that semester for Oregon, everything worked out very well as the special education department was heavily behavior analytic. Many influential professors were in the department, such as Mark Wolery, Mike Nelson, Dave Gast, Don Cross, among others, all of whom spent time in the trenches and doing behavioral education. They pioneered the use of time delay in educational settings and developed protocols for systems of least prompting. The power of this program came from the professors’ interests in improving education, determining what students, teachers, and schools needed. The department was widely published, and I learned how to do research and teach, having such a good time that I stayed on for my master’s in special education. My then boyfriend (now husband) was an architect and planned to get his master’s at Columbia. A faculty member at the University of Kentucky, who had been a doctoral student of Doug Greer’s, insisted I connect with Doug. Upon moving to New York, I enrolled in Doug’s doctoral program in the special education department. I went from the amazing experience in Kentucky to an equally-amazing experience working with Doug and *Comprehensive Application of Behavior Analysis to Schooling* (CABAS), which embodied this cybernetic interlocking system, which I loved. I worked at the Keller School, first as a TA/grad student, then as a teacher, moving up to assistant director, and finally executive director. During my time at the school, we went from a few preschool, special education classrooms to doubling the program while strengthening our parent training offerings, starting a mainstream program, and providing home-based services, in-school consultation, and early intervention. All functioned within this interlocking systems framework, which was supported by a *Personalized System of Instruction* (PSI) model and everyone being in charge of their data within the always-improving system. We were a growing community of excited, passionate educators, all about students being the center of measurement and behavior change.

What was the catalyst for your involvement in Headsprout?

As a long-time member of *Association for Behavior Analysis International* (ABAI), I’ve been very fortunate to meet so many people in our field who are really nice and quite supportive. Early on, I met Kent Johnson,



Janet Twyman, PhD is an Associate Professor of Pediatrics at the University of Massachusetts Medical School and the Director of Innovation and Technology for the U.S. Department of Education-funded national Center on Innovations in Learning. She has been a luminary in the field of instructional design, demonstrated by her notable achievements as Vice President of Instructional Development, Research and Implementation at Headsprout, where she led the design, development, and dissemination of the company’s highly regarded educational programs, and oversaw program implementation in over 1,000 public and private schools. Janet’s relentless efforts to promote the use of effective, evidence-based instructional practices for the improvement of educational innovations have influenced individuals and systems at the national and international level. A career educator, Janet has been a preschool and elementary school teacher, a principal and administrator, university professor and education researcher. Janet is widely published, presents frequently in both national and international forums, and serves as a board member on a number of organizations.

Joe Layng, and Greg Stikeleather – all who shared a common interest in instructional design and changing education (and verbal behavior). When they decided to start *Headsprout*, they needed someone who knew something about instruction and had worked with systems and schools, not just special education, but regular education as well. They were very convincing about my moving to Seattle, yet I was a bit reluctant: at Keller, we were deep into research and publishing, developing a curriculum for establishing verbal repertoires, and building a scientific system of schooling. We were very happy and productive. However, I agreed to take a one-year leave of absence from Keller to help *Headsprout* get started, but I ended up staying in Seattle and being a part of *Headsprout* for over 12 years. *Headsprout* was yet another amazing experience, merging behavior science, the learning sciences, emerging technologies, and systems work into effective instructional programs delivered over the Internet – teaching kids to read and comprehend when we could neither see nor hear them. We were breaking new ground in both behavioral and digital engineering and even the commercialization and dissemination of behavioral products. Our emphasis on iterative testing made it all possible. The process of discovery and problem-solving isn't always smooth; after the release of *Headsprout Early Reading*, we would joke that if we knew then what it would take to get it done, we never would have started. But I'm so glad we did.

What are your current projects and work at UMass Medical School and the Center on Innovations in Learning (CIL)?

As an Associate Professor in Pediatrics at the UMass Medical School (Shriver Center), I have opportunities to pursue my interests in learning and instructional design. My current instructional design work is in developing an NIH-funded online course for Emergency Medical Services (EMS) personnel, using 3D animation and first-person, scenario-based activities in a game, designed to teach appropriate interactions with persons with disabilities before, during, and after an emergency. I also consult on the design and delivery of various e-learning projects within the Shriver Center.

I am equally as fortunate to be a part of the Center on Innovations in Learning (CIL), which is one of [seven National Content Centers](#) funded by the United States Department of Education. The Centers are charged with helping [Regional Centers](#) and State Education Departments meet student achievement goals by providing in-depth knowledge, expertise, and analyses to increase state capacity. CIL disseminates information about scientifically-based research on effective practices and research-based products in educational innovation, educational technology, and personalized learning. Most of my work is in providing technical assistance to regional centers and states in the form of publications, presentations, and direct consultation on topics such as education technology in rural areas; blended learning and English-language learners; credit recovery and evidence-based practices in online instruction; deeper learning; and learning technologies. Specific current projects involve assisting the state of [Ohio pilot of competency-based education](#), including work to understand, define, measure, and teach competencies and working with Kentucky to define and disseminate in-

novations in learning, and co-editing the soon to be released "Handbook on Personalized Learning for States, Districts, and Schools."

You have worked extensively with schools and large systems all in the name of utilizing evidence-based educational practices. Throughout this work, do you identify any particular work of Skinner's to be the most influential and sustaining?

I will always revere *Verbal Behavior* because it had such an impact on my career and greatly influenced our work in developing teaching methodology and research at the Fred Keller School. It's probably the Skinner book that I've re-read the most times and definitely my most dog-eared and marked up. However, my "favorite" Skinner publication is "**Recent Issues in the Analysis of Behavior**" because it contains a collection of articles about the science of behavior across so many critical topics. Of those, my favorite is "The Place of Feeling in the Analysis of Behavior" because it crystallized for me what Skinner meant in *Verbal Behavior* while presenting a case that non-behaviorists could understand. Finally, Skinner's writings with regard to education and teaching have greatly influenced my work. *The Shame of American Education* always reminds me why work in education is important, and *Technology of Teaching* reminds me of the possibilities.

How do you navigate between the communities of cognitive science and behavior analysis in your work with educational organizations?

Cognitive science has a knack for talking about things that seem to resonate with people. In K-12 education, the themes du jour are centered around personal competencies: things, such as "growth mindset" (ala Carol Dweck), "grit" and "resilience" (ala Angela Duckworth), or "deeper learning" (ala the Hewlett Foundation). These areas are truly significant to people, and I feel a radical behavioral approach is essential in helping them understand their context and finding the actionable aspects within them (i.e., operational definitions, measureable features, teachable characteristics). So rather than disagree with or reject cognitive science outright, in my work, I try to uncover what people mean and work from there.

Where has the behavior analysis community missed opportunities to impact the world of education at large, and how might we begin focusing our attention on these areas?

People often talk about how behavior analysis is not popular, but I have to say that I don't agree with the position that behavior analysis is rejected in public schools. Most public school teachers do not have philosophical "skin in the game." In general, they do not care about wars between pedagogies or theories but are more concerned with what they want or need to do in the classroom. Throughout my career, I've been very successful in bringing behavioral science to the classroom across grade levels and subject matter, public and private, both in regular and special education. I think one of our "missed opportunities" has been not widely disseminating effective solutions that work for the average teacher. Teachers often have a difficult time translating behavioral technologies to the 25+ students in their classroom. We haven't provided a lot of help in this translation or made our

science easily accessible to most K to 12 teachers. Also, behavior analysis seems to skirt around the edges of implementation issues, acknowledging that teachers need support but for the most part, leaving the real talk about implementation of science and evidence-based practice to other domains and disciplines.

Over the last three years, I've had the privilege of engaging with these issues at the national level with CIL. I have to consider numerous policy issues, and frankly, I think overall the federal government has been addressing the right things in education. The past seven years (and even before that), general policy has been extremely congruent with behavior analysis. Policies support evidence-based procedures and effective strategies and tactics, bridging the research to practice gap, individualizing instruction, and modifying instruction based on learner needs. One of the largest movements in K to 12 education at the federal level (and it's moving into state and local districts) is support of competency-based education (CBE). CBE is the current term for what used to be mastery-based, individualized or differentiated instruction. What CBE entails is exciting, such as removing time-based requirements for instruction (180-day school year and end-of-semester or year testing) in favor of anywhere, anytime instruction and student progression based on multiple means of demonstrating mastery. Competencies imply fluency and generativity, being able to use skills under different and novel circumstances—many behavioral strategies and tactics are wrapped up in the idea of competencies.

One concern I have, however, is that we don't often teach our young behavior analysts the skills to transfer behavior analytic work at the state or national level or in policy, to work with these types of systemic issues. I mentioned my work within Ohio's competency-based education initiative, assisting in the development of their proposal for five pilot sites statewide, grappling with issues like alternative assess-

ments, varying instructional days, identification, description, measurement of student competencies, and so on. I would love for a cadre of experienced, like-minded behavior analysts to help with the work. Who better to help states prepare to go competency-based? Yet, too often, it seems we aren't producing people who understand policy, systems, implementation, data, and instructional design. What one of our programs build those repertoires in their students? I see many education jobs at the state and federal decision making level that would truly benefit from being done by a behavior analyst, but we aren't adequately preparing our students to serve in these positions (or even build awareness that they are out there). I don't think we are preparing our behavior analysts for the jobs the world needs them to take.

Do you have any other comments or topics that you would like to address?

One area in behavior analysis ripe for a "resurgence" is instructional design, merged with a non-linear Goldiamond-like approach with respect to the contingencies within learning environments (including face-to-face, digital, or blended environments). We've inherited a great gift from Sue Meyer Markle, Phil Tiemann, B. F. Skinner, and others with regard to building complex repertoires and arranging instructional contingencies, yet only a handful of our behavioral programs teach it. This work formed the basis of *Head-sprout*, and given the growing emphasis on the design, development, and sustained use of digital learning, it's an area that could serve behavior analysis well and frankly is great fun. Luckily, several individuals still work and publish in this area (e.g., Doug Johnson, Kent Johnson, T.V. Joe Layng, Joanne Robbins, Julie Vargas, and Ernie Vargas to name a few), but it would be even more heartening to see a growth in people who are knowledgeable about nonlinear instructional design and a burgeoning of new work in the area. 🦋



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A Call for Volunteers

Operants is looking to expand the list of energetic volunteer correspondents and translators worldwide to help produce appealing and behaviorally-oriented articles for the magazine. If conducting an interview, reviewing a book, reporting the news, and translating articles is something you or your friends and colleagues would like to participate in, please contact us at operants@bfskinner.org. We continue to add new languages and representatives from new countries. Even if your country or favorite topic was recently reported on, we can still use your help! Or maybe you feel that *Operants'* readers will benefit from the coverage of a specific subject or a profile of an individual — let us know! 🦋



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Attorney Michal Sagor, Israel: Thoughts on Law and Behavior

עורכת דין מיכל סגור: מחשבות על משפט והתנהגות



Interview by Shiri Ayvazo (BCBA-D)
ראיון על ידי ד"ר שירי אייבזו (BCBA-D)

Michal Sagor is an attorney, married, and a mother of two daughters. She is a partner in an independent law office and also a law doctoral student. Her typical day begins in the office with phone and in-person meetings with clients and colleagues. Next, she goes to court hearings to represent her clients. Thereafter, she returns to the office and continues to work on her legal cases: reading, writing, reviewing rulings, and memorizing legal materials in preparation for the next fight in the judicial arena. On less busy days, she spends a couple of hours with her daughters and devotes some time to work on her doctorate.

A year and a half ago, she added applied behavior analysis studies to her tight schedule. At present, she is a semester away from graduation and a certification in behavior analysis. As opposed to spending time in courts with other attorneys, the behavior analysis school day provides Michal with opportunities to meet and interact with people who come from an educational background. In the company of educators, Michal's differing view and thoughts stand out. We met to learn what made Michal interested in behavior analysis, her understanding of the behavioral science, and the connections she sees between the behavioral world and jurisprudence.

Michal, why did you choose to expand your knowledge in behavior analysis?

I feel that I did not choose behavior analysis, behavior analysis chose me. About two years ago, I was invited to give a one-off consultation to the Israeli Association of Behavior Analysis in matters related to the legal status of behavior analysis as a professional field. For the past two years, since that meeting, I have been serving the Association voluntarily as its legal adviser. This role exposed me to professional and personal challenges that made me realize I would benefit from studying this subject matter properly. I find the subject even more stimulating because most of the people attending my program are educators, and I thoroughly enjoy listening to their conversations and learning about their methodology.

מיכל סגור היא עורכת דין, נשואה ואם לשתי בנות, שותפה במשרד עצמאי של עורכות דין ודוקטורנטית למשפטים. יום טיפוסי בחייה של המשפטנית מתחיל בפגישות ושיחות טלפונית עם לקוחות וקולגות במשרד.



בהמשך היום היא מתייצבת בדיונים בבתי משפט לייצוג של לקוחות. לאחר מכן חוזרת למשרד להמשיך עבודה על תיקים משפטיים: קוראת, כותבת, לומדת פסיקות ומשננת חומר משפטי לקראת ההתמודדות הבאה בזירה המשפטית. בימים "קלים" יותר היא מספיקה לבלות עם בנותיה מספר שעות, ובערב מקדישה זמן ללימודי הדוקטורט. לפני כשנה וחצי החליטה להוסיף לסדר הזמנים הצפוף גם לימודי ניתוח התנהגות ונותר לה סמסטר אחד בלבד לסיום הלימודים ולקבלה תעודה בניתוח התנהגות. בניגוד לשהייה בבתי משפט ועם עורכי דין, יום הלימודים בניתוח התנהגות מאפשר למיכל הזדמנויות ללמוד ולהתחבר עם אנשים המגיעים בעיקר מתחומי החינוך. בחברה זו, מיכל מייצגת תחום שונה ומהווה נוף שונה שמתנהג וחושב אחרת מאשר אנשי החינוך. נפגשנו יחד כדי להבין מה

גרם למיכל ללמוד ניתוח התנהגות, כיצד היא מבינה את הענף ההתנהגותי, ומהם הקשרים בין עולם ההתנהגות לעולם המשפט. למה בחרת בניתוח התנהגות כהרחבת ידע? אני מרגישה שלא בחרתי בניתוח התנהגות, אלא שניתוח התנהגות בחר בי. לפני כשנתיים הוזמנתי לתת ייעוץ משפטי חד פעמי לעמותה הישראלית לניתוח התנהגות (היל"ה), בנושא מעמד המשפטי של התחום. בעקבות הפגישה ומוזה כשנתיים אני יועצת משפטית של העמותה בהתנדבות. בשנתיים הללו נחשפתי לאתגרים ועניין ברמה אישית ומקצועית, ובעקבות העניין, היה לי ברור כי יהיה נכון ללמוד את התחום בצורה יותר מסודרת. אני מוצאת את זה מעניין אף יותר כיוון שמרבית האנשים שלומדים איתי בתוכנית הינם אנשי חינוך. כאדם שלא בא מן התחום, זה מעניין מאוד להקשיב לשיח שלהם, ללמוד על מערכות הערכים שלהם ואופני החשיבה שלהם, שבמקרים רבים, שונים משלי. האם את רואה הבדלים בין עולם המשפט לעולם החינוך?

Do you see differences between the juridical versus the educational domain?

Yes, there are differences between the domains and between the people coming from these two backgrounds. Firstly, the context, considerations, and applications of educational teams occur with children or adolescents in educational settings, schools or clinical sites, whereas my linkage to behavior analysis and its applications is evident in interactions with adults of different social statuses. These interactions occur in law offices with clients I represent or other attorneys with whom I negotiate or in courts with juries that I report to. For example, a discussion with a client is completely different than the professional conduct required when facing a judge in a court of law. Secondly, as I witness from the sidelines discussions of my classmates, I envision the educational realm as a good and harmonious world where everyone strives for the betterment of others. Conversely, my field of experience is mostly characterized by curiosities and conspiracies. It requires that I, as an attorney, display wary, inquisitive, doubtful, argumentative, and belligerent conduct as part of the legal battle.

Do you find any relationship between Skinner's science and theory and your experience as an attorney?

By pursuing a doctorate, I have learned that one of the scientific attitudes is philosophical doubt. That is, the researcher will not accept arguments as complete facts that cannot be eroded. She will always doubt their validity and attempt to refute them. This attitude is most prevalent among attorneys, almost as second nature. Attorneys are obligated to pursue additional possible explanations or interpretations of a person's conduct and seek for another truth that has not been argued. When they read affidavits or listen to depositions, they do not focus solely on what is written or said. They mostly attend to what is unsaid and unwritten. In this sense, I certainly see similarities between Skinner as a behavioral scientist and the skills I am required to demonstrate as an attorney. By the way, this is the reason I greatly enjoy the school day. It provides me with a short, refreshing pause from law, legal battles and penalties and offers me a few hours of focusing on education and children.

As an attorney, what do you think about Skinner's elucidations on the question of control?

Skinner asserted we claim rights such as freedom, social equality, dignity, security, and well-being. Rights can exist only through warnings and control of those who threaten to withdraw them from us. Society does that by enacting laws and promulgating explicit regulations. Society must control its individuals' behaviors to safeguard its existence. Skinner's assertions made four decades ago are precise, and in my everyday professional activity,

Rights can exist only through warnings and control of those who threaten to withdraw them from us. Society does that by enacting laws and promulgating explicit regulations. Society must control its individuals' behaviors to safeguard its existence. Skinner's assertions made four decades ago are precise, and in my everyday professional activity, I find they are valid. A civilized society cannot trust appropriate conduct to occur based on a person's behavior, his good will, or moral nature. Instead, society must shape these behaviors from a very young age through explicit provisions.

כן, קיימים הבדלים בין עולם המשפט לעולם החינוך ובין האנשים המגיעים מן העולמות השונים הללו. ראשית, החשיבה, ההקשרים והיישומים של אנשי חינוך קשורים ומתרחשים בעיקר במסגרות חינוך, בתי ספר או מסגרות טיפוליות, עם ילדים או מתבגרים. ההקשרים והחיבורים שאני עושה לניתוח התנהגות הם לאירועים המתרחשים במשרד העצמאי שלי, בהתנהלות מול לקוחות שאותם אני מייצגת, בדיון בבתי משפט אל מול עורכי דין אחרים או שופטים ובמשאים ומתנים עם צדדים מתחרים, עם אנשים בוגרים בסטסוסים שונים. לדוגמה, שיח עם לקוח שונה לחלוטין מהתנהלות מול שופט בבית משפט.

שנית, כצופה ושומעת מן הצד את הדיונים והשיח של אנשי החינוך, עולמם מצטייר לי כעולם של טוב, של הרמוניה, טוב, סיוע, קידום ושיפור לעומת זאת, העולם המשפטי אותו אני חווה כעורכת דין לעיתים רבות מתאפיין במזימות ותככים, ודורש ממני כעורכת דין לסגל דפוסי התנהגות חשדניים, הטלת ספק מאשר קבלת אמירות כעובדות, חקירה, משא מתן והרבה כוחניות כחלק ממאבק משפטי.

האם את מוצאת קשר בין המדע והתיאוריה של סקינר לבין עולם המשפט או ההווה שלך כעורכת דין? בלימודי הדוקטורט אני למדה שאחד מגישות המדע הינה ספק פילוסופי. דהיינו, החוקר לא יקבל עובדות כעובדות מוחלטות ומוגמרות אלא תמיד יטיל בהן ספק, יבדוק באופן תמידי את אמיתותן וינסה להפריכן. הגישה הזו מאוד רווחת, כמעט טבע שני, של עורכי הדין. עורך הדין תמיד נדרש לחפש משמעויות נוספות, אמת אחרת שאולי לא נאמרה, אפשרויות פרשנות אחרות להתנהלות כזו או אחרת. כאשר הוא קורא או מאזין לתצהירים או פסקי דין הוא לא מתמקד רק במה שאומרים (או במה שכתוב) אלא, ולעיתים בעיקר, במה שלא אומרים ובמה שלא כתוב. במובן הזה, אני בהחלט רואה קשר בין סקינר כמדען התנהגותי לבין המיומנויות שאני נדרשת להן כעורכת דין בזירה המשפטית. זו אגב אחת הסיבות שיש לי הנאה רבה מן הלימודים. יום הלימודים מאפשר לי עצירה קלה מרגיעה ומרעננת, ומחשבות על עולם הילדים והחינוך מאשר על מאבקים משפטיים ועיסוקים בחוק ועונשין.

כעורכת דין, מה דעתך על תיאוריו של סקינר בנושא שאלת השליטה?

סקינר דיבר על כך שאנו טוענים לזכויות כמו חירות, שוויון, בטחון, כבוד ורווחה. אפשרות הקיום של זכויות היא רק באמצעות שליטה או איום המופעלים על אלו שמבקשים לשלול מאיתנו את הזכויות האלו והחברה עושה זאת באמצעות חקיקת חוקים ויצירת נהלים מפורשים. על מנת שחברה תגן על קיומה, עליה לשלוט בהתנהגות היחיד בה. הטענות של סקינר כבר לפני ארבעה עשורים היו מאוד

I find they are valid. A civilized society cannot trust appropriate conduct to occur based on a person's behavior, his good will, or moral nature. Instead, society must shape these behaviors from a very young age through explicit provisions. The necessity of laws and rulings to impose order or control underpins my work. My job is replete with examples illustrating this necessity. Some of these examples are a person who abused his wife and family, another person who made financial commitments and payments to different companies while his checks bounced and he continued to accrue enormous debts, and an individual who slandered others in different media channels. All of these people were penalized according to the law, and the society maintained its order. Nevertheless, if this control had not been imposed, people in the aforementioned examples would have most likely continued with their inappropriate conduct. Morality, humanity, and decency are not inherited traits, but a product of the social environment that governs individuals by laws and sanctions. Additionally, Skinner's observation of counter-control is also quite evident in my work. For instance, attorneys are often required to find loopholes in the law that allow an argument that a person's conduct was legitimate even though ethically or morally it was questionable.

Has your acquaintance with the behavioral analytic field influenced your performance in the legal field?

Performance in the juridical field is characterized by battles. Therefore, the behavioral repertoire may be highly keen and aggressive. As I become more knowledgeable in behavior analysis, I find myself trying to analyze what makes a client entrenched in a position or what makes a fellow attorney act the way he does. Before I began school, when a lawyer argued firmly against me, I responded with opposing firmness. Today, there are situations where my response is less impulsive since I am trying to seek the motive and to understand why my colleague is assuming his approach. I have also been noticing lately that I manage to impact my clients' position with behavior analytic procedures.

Do the juridical and the behavioral domains correspond with one another, or do they differ for you?

I believe the more knowledge and expertise I gain in behavior analysis, the more behaviorally-based my thinking will be. Currently, I am in the primary learning stages of this subject matter, therefore the perceptions, understandings, and analyses are not automatic for me. That said, I realize the juridical domain is behavioral, and all the consequences it applies have shaped my particular behavioral repertoire. For example, my job requires me to be keen, updated, current, and fluent because the consequences of every act are highly frequent, very powerful, and aversive in most cases. In court representation, I am given only a few minutes to make my claim. If I do not provide it fluently, succinctly, and convincingly, the judge will quickly rule against me. Each ruling of this kind embeds a financial penalty (e.g., court expenses), sometimes reputational damage, experiencing failure and incompetency, and so forth. The punishment that comes with the law creates Darwinist circumstances where the strong, proficient, and keen attorney prevails and the weak, negligent one will be out of business over time.

Does behavior analysis influence your private life?

Behavior analysis contributes much to my domestic life with my two daughters and husband who has recently graduated from doing the laundry to folding clothes. Today, I observe

מדויקות ואני מוצאת אותן נכונות בעבודתי היומיומית. בחברה מתוקנת אין מקום להשאיר את התנהגויות היחיד לרצונו הטוב או טבעו המוסרי של האדם, אלא עלינו לעצב אותן מגיל צעיר מאוד באמצעות הוראות מפורשות. בבסיס עבודתי עומד ההכרח לחוק ולמשפט כדי להשליט סדר או שליטה, כפי שהגדיר סקינר. עבודתי רוויה בדוגמאות שמעידות על הכרח זה. לדוגמה, בעבודתי עסקתי במקרה בו אדם התעלל נפשית ופיזית בבני משפחתו, ובמקרה אחר באדם שהתחייב לשלם כספים רבים לגופים ואנשים שונים ללא כיסוי ויצר חובות אדירים ובמקרה שלישי לאדם שהשמיץ אחרים בערוצי מדיה שונים. כל האנשים הללו נענשו בהתאם לחוק והחברה החזירה לעצמה וליחידה את הסדר והשליטה. אך אם שליטה זו לא הייתה מופעלת, אותם אנשים שתיארת, היו ממשיכים ונוקטים בהתנהגויות האסורות והלא רצויות הללו. מוסר, אנושיות והגינות אינם תכונותיו של היחיד הטבועות בו מלידה, אלא תוצר של סביבה חברתית אשר שולטת ומשליטה סדר באמצעות חוקים וסנקציות. בנוסף, גם אבחנתו של סקינר את תופעת השליטה-נגד, מאוד מוכרת ורווחת בעבודתי. למשל, עורכי דין נדרשים פעמים רבות למצוא פרצות בחוק המאפשרות לאדם לקיים התנהגות שמוטלת בספק מבחינה אתית או מוסרית, אבל עדיין בגדר החוק. זה תפקידו של עורך הדין בייצוג של אדם נאשם וזו אחת מן הדוגמאות להפעלת שליטה-נגד.

איך היכרותך את עולם ניתוח ההתנהגות משפיעה על תפקודך המקצועי בעולם המשפט?

התפקוד בעולם המשפט מאופיין במאבקים, ולכן, דפוסי ההתנהגות יכולים להיות מאוד תוקפניים וחדים. לאור ההכרות עם עולם ניתוח התנהגות אני מוצאת את עצמי חושבת מה מניע לקוח להתבצר בעמדה מסוימת או מה גורם לעורך דין לפעול באופן בו הוא פועל. אני חושבת שטרם לימודי, אם עורך דין היה טוען נגדי בחריפות, לא הייתי מחפשת את המניע, אלא הייתי בעיקר עונה באותה המטבע, בחריפות נגדית. כעת ישנם מקרים שבהם אני מגיבה באופן פחות אימפולסיבי כיוון שאני מנסה לחפש את המניע ולהבין את עמדת האחר ומדוע הוא נוקט בה. לאחרונה אני שמה לב לכך שאני גם מצליחה להביא לקוחות שלי לשנות עמדות באמצעות שימוש בכלים של ניתוח התנהגות. האם העולמות השונים של עורכות דין וניתוח התנהגות יכולים להחמיא אחד לשני, או מתרחשים בנפרד עבורך?

אני מאמינה שככל שארכוש יותר ידע והתמחות בתחום, החשיבה שלי תהיה יותר מונעת ומבוססת-התנהגות. כיום אני עדיין בשלבי הלמידה הראשונים של התחום, ולכן התפיסות והניתוחים הללו לא מתרחשים באופן אוטומטי. יחד עם זאת אני מבינה שעולם המשפט הוא עולם התנהגותי ובעקבות התוצאות שהוא מזמן, הוא גרם לי לעצב דפוסי התנהגות מאוד מסוימים. לדוגמה, בתחום עבודתי עורך הדין מחויב להיות שנון, מידוע, עדכני ושוטף. זאת מכיוון שהתוצאות לכל התנהגות מתרחשות באופן תדיר מאוד, עוצמתי מאוד ובמקרים רבים אוורסיביות. בהתמודדות ייצוגית בבית משפט ניתנות לי רק דקות ספורות כדי להעלות טיעון כלשהו, ואם אינני עושה אותו בצורה תמציתית, שוטפת ומשכנעת מספיק, שופט יכריע מהר כנגדי, וכל הכרעה שכזו כרוכה בפגיעה כספית (לדוגמה, הוצאות משפטיות), לעיתים פגיעה במוניטין, תחושה של אי הצלחה ועוד. הענישה שנמצאת בצידו של החוק יוצרת בעולם המשפט מציאות דארוויניסטית לפיה החזק, עורך הדין הבקיא והחד, שורד, בעוד שהחלש, עורך הדין שמתרשל, לאורך זמן, יגיע למצב בו יצטרך לסגור את העסק שלו.

my family members' behaviors differently, and my decisions are more weighed and thoughtful. My most thrilling behavior analytic success is with my seven-year-old daughter. I have stopped making excuses for why she is struggling in school and left aside all emotional reasoning or dilemmas that were not helpful for remediating the challenges. Instead, I prepared an intervention plan based on behavioral procedures, and the result was magical, or actually... scientific!

As a lawyer, what do you think is missing in behavior analysis and how it should be remedied?

I think there are three lacking processes that should be adapted. First is accessibility and application of Skinner's science. I remember watching in my first semester Skinner's videos of pigeons pecking a disk to be rewarded with food, and I did not really understand it. I asked myself what have I chosen to study and how is it relevant for me? It took me some time to understand the principles that back then, in my first semester, were remote and disconnected from what I had thought I had come to study. Today, I realize and appreciate their importance. Equivalent disc-pecking examples should be made relevant to other domains beyond educational settings and young populations. This would help professionals coming from various backgrounds (like law) to make accurate applications to their field more easily.

The second process is advancing the knowledge of ethics and ethical practice in this field. Ethics is the professional nimbus of behavior analysts and the guidelines by which they must conduct themselves. Ethics do not stand alone. They are interwoven with Israel's law and justice, and that is why I have a particular interest in this area. I am uncertain that ethics are emphasized enough. Therefore, I collaborate with Dr. Hirschmann and Dr. Eldar to promote behavior analysis practice in accordance with the binding ethical guidelines: I present them in conferences, and I write articles on this topic.

The third process concerns licensing the applied behavior analysis vocation. Unfortunately, behavior analysis is not anchored in the laws of the State of Israel as a profession that requires a license for those who practice it, similar to the requirements in medicine, psychology, or law. This situation is intolerable for those who practice behavior analysis, the clients of these services, and for the field as a professional sector. The major concern is for the well-being of the clientele who have the right to receive therapy services from professionals with evident education, knowledge, training, experience, and qualifications in behavior analysis. Another concern, of course, is for the field itself — for its prestige and for the avid maintenance of its core principles that are closely related to Skinner's scientific doctrine.



האם ניתוח התנהגות משפיע עלייך גם בחיים האישיים?
ניתוח התנהגות תורם לי רבות בביתי, עם שתי בנותיי ועם בעלי, שרק לאחרונה בוגר תוכנית התערבות לקיפול כביסה... היום, אני צופה בהתנהגויות של בני משפחתי באופן אחר וההחלטות שאני מקבלת שקולות ומחושבות יותר. ההצלחה הגדולה והמרגשת ביותר שלי בזכות ניתוח התנהגות היא עם בתי בת ה-7. הפסקתי לתרץ בשבילי או בשבילה מדוע קשה לה בלימודים, נטרלתי את הסוגיות הרגשיות שלא תרמו לפתרון, והכנתי תוכנית התערבות שהתבססה על הליכים התנהגותיים והתוצאה – קסם...או בעצם מדע!

כעורכת דין, מה לדעתך חסר וצריך שיקרה בניתוח התנהגות?
אני חושבת שישנם שלושה תהליכים שצריכים לקרות טוב יותר. הראשון קשור לנגישות ויישום המדע של סקינר. אני נזכרת בסמסטר הראשון שלי ללימודים כשצפינו בסרטונים של תיבת סקינר עם היונה שלמדה לנקר בדיסקית כדי לקבל אוכל ולא ממש הבנתי במה מדובר. שאלתי את עצמי מה בדיוק בחרתי ללמוד וכיצד זה קשור אלי? ולקח לי זמן להבין את העקרונות, שאז נשמעו מרוחקים ומנותקים ממה שחשבתי שבאתי ללמוד, אבל היום אני כבר מבינה ומעריכה את חשיבותם. את אותם ההקשרים של ניקור הדיסקית צריך גם להדגים בתחומים אחרים, מעבר לתחום החינוך ועבודה עם ילדים. זאת כדי ישמשו אנשים המגיעים מתחומי ידע אחרים כמו משפט, ויוכלו גם הם לעשות את הקישורים והיישומים הנדרשים לעבודתם בצורה קלה יותר.

התהליך השני קשור לקידום ידע על אתיקה והדגמתה בתחום זה. אתיקה היא ההילה המקצועית של מנתחי התנהגות וצריכה להיות כנר לרגליו של מנתח ההתנהגות ולהתוות את דרכו. האתיקה לא עומדת לבדה. היא שוזרה יחד עם החוק והמשפט במדינת ישראל ועל כן יש לי עניין רב בנושא זה. יחד עם זאת אני לא בטוחה שנושא האתיקה מספיק מודגש ולכן אני פועלת עם ד"ר מיכל הירשמן וד"ר איתן אלדר לקידום עבודת מנתחי התנהגות בהתאם לכללי האתיקה המחייבים אותם, במסגרת הרצאות בתכנית הלימודים, כנסים מקצועיים וכתבות מאמרים בתחום.

השלישי קשור לרישוי העיסוק בניתוח התנהגות יישומי. לצערי, ניתוח התנהגות אינו מעוגן כיום בחוקי מדינת ישראל כמקצוע אשר העוסקים בו חייבים להחזיק ברישיון כמו רפואה, פסיכולוגיה או עריכת דין. מצב זה הוא בלתי נסבל מבחינת העוסקים בתחום, ציבור הלקוחות שצורך את התחום והתחום עצמו כענף מקצועי. הדאגה הראשונה והכבדה ביותר היא לשלום ציבור המטופלים אשר זכאים לקבל שירות או טיפול ממנתח התנהגות שהוא בעל ידע, הכשרה, השכלה וניסיון מוכחים בתחום. חשש נוסף הוא כמובן הוא גם לתחום עצמו, ליוקרתו, ולשמירה על עקרונות הליבה שלו הקשורים למשנתו המדעית של סקינר.





profile

Maria Martha Costa Hübner

University of São Paulo (USP)

São Paulo, Brazil



Interview and Translation from Portuguese
by Amilcar R. Fonseca Júnior

Dr. Maria Martha Costa Hübner is a full professor at the University of São Paulo (USP), where she develops research on verbal behavior, learning, reading, recombinative reading, stimulus equivalence, autism, and behavioral therapy. She was the president of the Brazilian Society of Psychology from 2002 to 2005, coordinated the graduate program of Experimental Psychology at USP from 2005 to 2012, and was the president of the Brazilian Association of Psychology and Behavioral Medicine from 2008 to 2011. Currently, she is the president of the Association for Behavior Analysis International (ABAI) (2014-2017), coordinator of the psychology service of the Psychiatric and Psychology Division of the University Hospital at USP, and a researcher at the National Institute of Science and Technology on Behavior, Cognition and Teaching.



Dr. Maria Martha Costa Hübner é professora titular na Universidade de São Paulo (USP), onde desenvolve pesquisas sobre comportamento verbal, aprendizagem, leitura, leitura recombinativa, equivalência de estímulos, autismo e terapia comportamental. Foi presidente da Sociedade Brasileira de Psicologia de 2002 a 2005, coordenou o programa de pós-graduação em Psicologia Experimental da USP de 2005 a 2012 e foi presidente da Associação Brasileira de Psicologia e Medicina Comportamental de 2008 a 2011. Atualmente, é presidente da Association for Behavior Analysis International (2014-2017), coordenadora do Serviço de Psicologia da Divisão de Psiquiatria e Psicologia do Hospital Universitário da USP e pesquisadora do Instituto Nacional de Ciência e Tecnologia- Estudos sobre Comportamento, Cognição e Ensino.

I made a choice to pursue a career in behavior analysis very early on. In the last year of my undergraduate studies, I was invited to teach courses on research and behavioral analysis at the Catholic University of São Paulo - PUCSP. Now, I am a full professor at the University of São Paulo, the largest University in South America. I am also the first Latin American woman to be elected the president of the Association for Behavioral Analysis International (ABAI).

How has behaviorism impacted your life?

Behaviorism is my life. It influences me in three major ways: Behaviorism impacted me by creating positive reinforcement through the majority of the contingencies I embrace; it provided precision of my daily analysis of terms and facts; and, most importantly, it shaped my career — the dissemination of the science of behavior analysis for a better life. Because of this, I have remained in a leadership position within the field since 2000.

Skinner often spoke of behavior science and the philosophy of that science, hoping there would follow an increase in research both in frequency and in complexity. Do you think there has been a reverse of the desirable situation with a shortage of laboratory work?

Yes, mainly in the animal labs, due to incorrect interpretations of the animal protection organizations and from prejudice from other areas in psychology. Shame on them!

The dissemination of behavior analysis is occur-

Desde minha graduação, eu percebi que a Análise do Comportamento era minha escolha. Então, no último ano, eu fui convidada para lecionar na Universidade (Pontifícia Universidade Católica de São Paulo - PUCSP) em disciplinas relacionadas à pesquisa e Análise do Comportamento e então minha carreira como analista do comportamento começou. Agora, eu sou professora titular na Universidade de São Paulo, a maior Universidade na América do Sul. Eu também sou a primeira mulher latino-americana eleita a presidente da Associação Internacional de Análise do Comportamento (ABAI).

Como o behaviorismo impactou sua carreira/vida?

O Behaviorismo é “minha vida”. Ele tem me influenciado de três formas principais: Behaviorismo me impactou por criar reforçamento positivo na maioria das contingências que eu vivo; ele forneceu precisão de minhas análises diárias dos termos e fatos; e, principalmente, ele modelou minha carreira: a disseminação da ciência da Análise do Comportamento para uma vida melhor. Por causa disso, eu escolhi ser uma figura de liderança no campo, desde 2000.

Skinner frequentemente falou da ciência do comportamento e da filosofia dessa ciência, esperando que houvesse um aumento na pesquisa tanto em amplitude quanto complexidade. Você acha que está havendo uma inversão dessa situação desejável com uma preocupante escassez de trabalhos de laboratório?

Sim, principalmente nos laboratórios animais, devido

ring, maybe not at the rate that we would like to see. Nonetheless, our science is spreading across disciplines and countries. Do we have better chances of integrating with other sciences and disciplines to make them more effective and socially helpful? What could we learn from these disciplines?

Neuroscience is the one discipline that we have to approach more. Skinner said: the brain is part of an organism and it is important that it be understood. We have to look for more intersections with disciplines with epistemologies compatible with ours. No mentalistic ones.

In Brazil, so many women had an important role in development and dissemination of Behavior Analysis. Could you comment on this?

No doubt. Maria Amélia Matos, Carolina Bori, just to mention two giants, laid the foundation of behavior analysis here with Fred Keller by their side. Carolina Bori played an important role in the leadership with the National Scientific Association (SBPC).

In Brazil, a group called *Marias & Amélias* was created by female behavior analysts to examine how behavior analysis can contribute to the discussion on feminism. What is your opinion on the possibilities of a dialogue between behavior analysis and feminism?

Behavior analysis has to focus on dissemination as a

whole, instead of working with sexist movements. I am not sure it is necessary. Science has no sex.

In your opinion, how well are women represented today in science in general, and in behavior analysis in particular? Do you see obstacles to overcome?

In my opinion, behavior analysis is developing very well. Many women fill leadership roles. However, I am not sure about the equality of salaries. If there is a significant discrepancy that puts women in a disadvantage, I think discussion and actions will be necessary.

Do you have a favorite writing or book of Skinner's? If so, why?

Verbal Behavior, because I am very interested in the topic and because this book is a piece of art and science. 🐦



University of São Paulo

à interpretação errônea das organizações de defesa dos animais e do preconceito de outras áreas da Psicologia. Uma vergonha.

A disseminação da Análise do Comportamento está ocorrendo, talvez não na velocidade que nós gostaríamos de ver. Apesar disso, nossa ciência está se espalhando por entre disciplinas e países. Nós temos melhores chances de integração com outras ciências e disciplinas para torná-las mais efetivas e socialmente úteis? O que podemos aprender com essas disciplinas?

As Neurociências são aquelas das quais devemos nos aproximar mais e mais, como disse Skinner: o cérebro é parte do que um organismo faz e, por causa disso, é importante ser entendido. Nós temos de procurar intersecções com disciplinas com epistemologias compatíveis com a nossa. Aquelas não mentalistas.

No Brasil, muitas mulheres tiveram um papel importante no desenvolvimento e disseminação da Análise do Comportamento. Você poderia comentar essa afirmação?

Sem dúvidas. Maria Amélia Matos, Carolina

Bori, apenas para mencionar duas gigantes, começaram a

fundação da análise do comportamento aqui com Fred Keller. Carolina Bori exerceu um papel de liderança importante com a Associação Científica Nacional (SBPC).

No Brasil, um grupo chamado *Marias & Amélias* foi criado por mulheres analistas do comportamento para investigar como a Análise do Comportamento pode contribuir para a discussão sobre Feminismo. Você poderia expressar sua opinião sobre as possibilidades de diálogo entre Análise

do Comportamento e Feminismo?

A Análise do Comportamento ainda tem que trabalhar mais para a sua disseminação como um todo, ao invés de trabalhar com movimentos sexistas. Eu não estou certa se isso é necessário. Ciência não tem sexo...

Na sua opinião, quão bem está a representatividade das mulheres hoje na ciência em geral, especialmente na Análise do Comportamento? Você vê obstáculos a serem superados?

Está se desenvolvendo muito bem, em minha opinião. Há muitas mulheres na liderança. No entanto, eu não sei sobre o mercado e salários. Se importantes diferenças existirem, com desvantagens para as mulheres, eu acho que discussões e movimentos têm que ser iniciados.

Você tem um escrito ou livro favorito de Skinner? Se tiver, por quê?

O *Comportamento Verbal*, porque eu sou muito interessada nesse tópico e esse livro é uma obra de arte e ciência. 🐦



career
corner

Dr. Christina Whalen on ABA and Gaming



Interview by Emaley McCulloch



Chris is a licensed psychologist and doctoral level board certified behavior analyst (BCBA-D) specializing in Autism Spectrum Disorders (ASDs). Currently, she works as the Director of CARD New Initiatives at the Center for Autism and Related Disorders and is an Instructor for Kaplan University. Her passion is to increase accessibility, decrease costs, and improve treatments for individuals with ASDs. Chris is a Co-Founder and the former Chief Science Officer for TeachTown, a computer-based Applied Behavior Analysis program for children with ASDs. She recently worked at West Health Institute where she led a gaming initiative to teach social skills to school-age children with ASDs using the X-Box KINECT system. In more than 20 years experience in research and clinical practice with children with autism and their families, Dr. Whalen has developed and supervised home programs, educated and trained parents and teachers, consulted with school districts, taught college and graduate courses in psychology and education, has presented at numerous conferences, and has published in several journals. She is the editor and author of the book Real Life, Real Progress.

Tell us about your work related to autism/ABA and gaming?

I have always loved to play games of all sorts — board games, video games, you name it. As part of my clinical work with children, I often came up with new games or used existing games and re-invented them to meet the needs of the children. I saw that many children with autism spectrum disorders (ASDs) were drawn to technology, and using it came easily to many of them. I started using video games and computers to motivate them, and then, the idea came that gaming might be a good way to teach these children. I met up with gaming experts while still in graduate school to brainstorm ideas. A few years later, I came up with the concept of *TeachTown*, an ABA-based computer game. We were able to successfully launch the program and got excellent outcomes in our research. Recently, I worked with an organization to help build a social-skills video game, and while that project was not completed, I was able to demonstrate some potential with that program too. I strongly believe that gaming can be effective, reduce cost, increase accessibility to treatment, enhance motivation, and improve treatment consistency and fidelity of implementation.

How were you drawn to field of behavior analysis and autism?

I started working in an autism research laboratory with Dr. Laura Schreibman when I was an undergraduate student. I loved the work there and continued to work there part-time through my junior and senior years. I quickly fell in love with the children, families, science, and people working with this population and decided this was what I wanted to do with my career. I stayed with Dr. Schreibman at UC San Diego through my Master's and PhD, and I have been committed to this population ever since.

How do you think the fields of behavior analysis and gaming are related?

If you look at really good mainstream video games, you will find ABA incorporated brilliantly. Even though gaming uses a different language, there is a real science behind it. Based on sales and the addictiveness of these games, they are clearly effective at motivating behavior. One of the things that is done extremely well in good video games is prompting. Most of these games start out with a lot of prompting to help the player get started with the game, then it quickly fades out as the player starts to figure things out so that he or she can play the game independently. The prompting strategies include modeling, rehearsal, video modeling, and visual and audio prompts. An obvious component of successful gaming is motivation — good video games reel the player in, and it's hard to stop playing them. This is done using variable reinforcement schedules that begin with frequent reinforcement and small rewards, and build up to less frequent rewards that are larger and more valuable to the player. In many games, there is also a choice of reinforcers: for instance, you may earn points to buy items that you want to enhance your game play. Another component in gaming that is similar to good ABA practice is the use of chaining procedures to build skills. Many video games begin with basic game

play so that the player is successful, then the games add more and more to the play so that it becomes more challenging for the player. This works far better than starting easy and keeping the task easy or starting the game where it is too difficult. In serious gaming, a common mistake that I see in design is that the games don't build up and add challenges and the users become bored quickly.

How has behaviorism impacted your work related to gaming/game design?

As a behavior analyst, I am actually very drawn to game design due to its inherent behavioral principles that I just mentioned. I think games offer a few things that a therapist could not do. For instance, the consistency of treatment in gaming is something that cannot be replicated in the real world. In addition, the measurement of behavior is extremely accurate and reliable, which is not the case in real world treatment delivery. I also love the fact that gaming allows the designer to build in a lot of simultaneous measurements of behavior change that would be impossible for a therapist to measure while delivering treatment. Most importantly, I think that gaming is an avenue for behavior analysts to offer good interventions at a low cost and to be able to serve more individuals than would be possible with a team of people delivering treatment. That being said, I don't see gaming as a replacement for person-delivered ABA, rather, I see it as a supplementary tool that can allow service providers to offer more for less.

In the gaming industry, how is behavior analysis perceived and/or utilized?

ABA is not even talked about in the gaming industry. Although they use the principles, game designers are not at all familiar with behavior analysis. I think that the science and vocabulary associated with behavior analysis is too foreign to them. I'd like to see more crossover in these two fields. However, I think that behavior analysts could learn a lot from very good game designers, and I'd love to see a talk at ABAI including one or more of these experts. Similarly, I'd love to see game designers working with behavior analysts because I think our field could immensely improve the world of gaming. While I think our field could make the biggest impact on serious games, we could get into the world of entertainment games as well.

Game designers have been so successful in designing games that pull in massive audiences, changing people's behavior on a massive scale. What are ways behaviorists can learn from professionals in the gaming industry?


First, behavior analysts need to open their minds to using more technology. Existing treatments are still pretty antiquated, and little is being done to address the growing population of people needing ABA and the small number of people qualified to help them. We could have a much bigger impact on the world if we opened our science up to people outside of our own field and worked to build solutions that can have a widespread impact rather than just working

with individuals. We also need to understand that children today are growing up with technology all around them, and regardless of how we feel about that, it is now a life skill to effectively use technology. Gaming has a huge impact on kids and adults these days because they challenge "executive function" and motor skills, offer social opportunities, and are super fun. I'm a strong believer in the idea that learning does not have to be dull, repetitive, or painful – it can be fun, and gaming could be a potential solution for achieving that, although not the only one.

What games/apps/devices that utilize behavior analysis do you believe are making a positive impact?

Well, I still think *TeachTown* is having a positive impact, and there are a few more games and apps out there that are similar. I think some of the best games and apps are ones that are not actually developed by behavior analysts. For instance, fitness apps are extremely popular and motivate people to work out more. Apps like Facebook and LinkedIn are extremely motivating and increase networking and socialization. Some argue that these kind of apps decrease socialization, but I have not found the research to support this (and I personally disagree). Apps like Yelp are effective in improving services in the community — bad reviews equate to fewer consumers and vice versa. Despite the bad reputation of video games, there is some solid research showing that many games can have positive effects. For instance, there are studies showing improved "executive function" skills in children who play *Minecraft*. These skills appear to generalize outside of video games and when used in moderation, may enhance a child's ability to learn and do well in school.

The dissemination of behavior analysis is occurring across disciplines, do you think we have a chance of integrating behavior analysis into the industry of serious games/gaming/gamification? If so, how?

Yes, of course, I think serious gaming is in dire need of behavior analysts. While mainstream games seem to do a great job of motivating consumers and increasing behavior, many serious games are boring and feel like work to the person using them. Sometimes, it's hard to get away from this. If you want to teach something, it may not always be something the person wants to learn, but as a good behavior analyst, we still need to add in sufficient reinforcement to keep the learners engaged. I think serious gaming is a big enough opportunity to become its own sub-division of ABA — there are so many ways that gaming could have a big impact on people's lives. Currently, the serious games are just not typically done very well. Here are just a few of the areas that I think behavior analysts could drive serious gaming into a better direction: autism spectrum disorders, English Language Learners, ADHD, social anxiety, phobias, fitness and health, medical compliance, driving, safety, public transportation, money skills, employment skills, independent living skills, academics, test preparation, and much more. 

Applied Behavior Analysis for Helping Children with ASD at Novosibirsk State University

Olga Pervushina, PhD

Dean of the Department of Psychology

Novosibirsk State University;

Director of the Center of Applied Behavior Analysis

Novosibirsk, Russia

Traditionally in Russia, a system for helping people with autism spectrum disorders (ASD) is cut off from research activity, which slows down progress in the field and complicates solutions. The interdisciplinary research in the field of ASD that is observed in the Western world of academics might prove fruitful to Russian universities. Novosibirsk State University (NSU), one of the best Russian universities, witnessed what was taking place in autism and decided to create a center that provided applied behavior analysts (ABA) services to the ASD population. Over the past two years, the Department of Psychology at NSU has prepared the specialists who will be working at the Center.

In 2014, the activity was supported within the framework of the Top 100 programs of teacher and professional trainings in ABA programs to support children with autism spectrum disorders. In the course of implementation of the project in 2014 and the first half of 2015, the following significant results were achieved:

- In collaboration with experts from the U.S., an educational program in applied behavior analysis which corresponds to the international standards in this field was developed. It includes full-time and distance learning courses (lectures, seminars, and workshops). The program in applied behavior analysis is certified by the BACB International Council.
- Nine certified specialists in ABA were prepared. In addition to training on the basic program, specialists were trained in alternative communication system PECS (five people) and the use of diagnostic tools ADOS and ADI-R (six people). Also, six people completed the training in the Hong Kong branch of the organization *Autism Partnership*.



Dr. Olga Pervushina

В России традиционно система оказания помощи людям с РАС оторвана от научно-исследовательской деятельности, что замедляет прогресс в данной области и осложняет решение указанных выше проблем. Принимая во внимание западный опыт развития междисциплинарных исследований в области РАС, представляется важным организация подобных центров на базе ведущих отечественных университетов. Именно поэтому встал вопрос о создании на базе НГУ, как одного из лучших отечественных университетов, центра по исследованию аутизма и организации работы с детьми, страдающими расстройствами аутистического спектра. Подготовительная работа, связанная в первую очередь с подготовкой специалистов для работы в Центре, проводится в НГУ на базе ФП уже в течение двух лет.

Данная деятельность была поддержана в 2014 году в рамках проек-

та программы ТОП100 Подготовка преподавателей и специалистов по программе «Прикладной анализ поведения для сопровождения детей с расстройствами аутистического спектра». В процессе выполнения проекта в 2014 году и позже (за первую половину 2015 г.) были достигнуты следующие существенные результаты.

- В сотрудничестве со специалистами из США разработана образовательная программа по прикладному анализу поведения, включающая в себя очные и дистанционные курсы (лекции, семинары и тренинги), соответствующая международным стандартам по этой дисциплине. Курс по прикладному анализу поведения сертифицирован международным советом BACB
- Подготовлено девять сертифицированных специалистов по прикладному анализу поведения. Кроме обучения по основной программе специалисты прошли тренинг по системе альтернативной коммуникации PECS (5 человек), тренинг по использованию диагностических инструментов ADOS и ADI-R (6 человек), стажировку в гон-

- Since June 2014, a client base had been maintained and developed. On June 1, 2015, it contained about 60 families with children with autism. At the moment, about 40 families are on the waiting list to receive consultations from the experts of the center.
- Large-scale activities were established for spreading information about autism and methods of care for people with ASD. They include lectures and seminars from *Autism Partnership* about applied behavior analysis. A.Y. Rzhetskiy (University of Chicago) conducted classes on the impact of environmental factors on the prevalence of ASD. In addition, researchers from Yale University reported about the methods of care for people with ASD and models of inclusive education. Furthermore, the Director for scientific research of *Autism Speaks* Amy Daniels presented on global international initiatives in research and implementation of PAC methods of care for people with ASD in conditions with a lack of resources. Events were attended by more than 300 people.
- There are free activities that provide family members of people with autism basic theoretical knowledge of the ABA. Twenty of the families received services in 2014, and 10 more joined them in 2015. The center conducts educational webinars for parents and professionals.
- Currently, 20 children receive regular services.
- The cooperation between NSU and the Child Study Center at Yale University with leading experts in the field of ABA and research of autism was established, as well as close contacts with *Autism Speaks*, which is the largest and most influential non-governmental international organization dedicated to the protection of the rights of people with autism.
- Cooperation was established with charitable



Photo: <http://aba.nsu.ru/>

конгском филиале организации «Аутизм Партнершип» (6 человек).

- С июня 2014 года разрабатывается и поддерживается клиентская база, содержащая на 1 июня 2015 информацию примерно о шестидесяти семьях детей с аутизмом. На данный момент около 40 семей находятся в списке ожидания на получение консультаций от специалистов Центра.
- Проведены масштабные мероприятия по распространению информации об аутизме, методах помощи людям с РАС, включая лекции и семинары экспертов «Аутизм Партнершип» по прикладному анализу поведения, А.Ю. Ржецкого (Чикагский университет) о влиянии факторов окружающей среды на распространенность РАС, ученых из Йельского университета о методах помощи людям с РАС и моделях инклюзивного образования, директора по вопросам научных исследований организации «Аутизм Спикс» Эми Дэниелс о глобальных международных инициативах в исследованиях РАС и реализации методов помощи людям с РАС в условиях с недостатком ресурсов (мероприятия посетили более 300 человек).
- Проводятся бесплатные мероприятия, во время которых члены семей людей с аутизмом могут получить базовые теоретические знания по АВА и в течение месяца получать подробные консультации сотрудников Центра, в 2014 году в рамках такого мероприятия получили консультации и сопровождались в течение месяца более 20 семей, в 2015 году – более 30 семей. Сотрудниками Центра проводятся образовательные вебинары для

родителей и специалистов (в вебинарах приняли участие более 80 человек).

- Начата практическая работа с детьми с РАС и их родителями. В настоящее время регулярную помощь получают 20 детей.
- Установлено сотрудничество с ведущими специалистами в сфере прикладного анализа поведения и в области исследований аутизма, включая специалистов из Центра изучения ребенка Йельского университета – одного из ведущих мировых центров исследований аутизма. Налажены тесные контакты с «Аутизм Спикс» - самой крупной и влиятельной неправительственной международной организацией, занимающейся защитой прав людей с аутизмом.

organizations in particular with the Russian foundation *Exit* that provides assistance in addressing autism-related issues.

In 2015, the Department of Psychology at Novosibirsk State University decided to officially organize the interdisciplinary center of applied behavior analysis for children with ASD. The mission of the center is to help children with ASD and their families using scientifically-grounded methods and interdisciplinary studies of autism.

The uniqueness of this center for Novosibirsk and Russia as a whole is based on the fact that it is an attempt to connect research, education, and practical work in the field of autism. In addition, professionals who have mastered the most effective evidence-based methods

- Установлено взаимодействие с благотворительными организациями, в частности, с Фондом содействия решения проблем аутизма в России «Выход»

В 2015 году Новосибирский университет принял решение об организации на базе факультета психологии междисциплинарного центра прикладного анализа поведения для работы с детьми с РАС. Миссия Центра – оказание помощи детям с РАС и их семьям на основе научно обоснованных методов работы и междисциплинарные исследования аутизма.

Уникальность данного центра для Новосибирска и России в целом связана с тем, что он является опытом соединения научных исследований, образования и практической работы в сфере проблемы аутизма. Кроме того, для работы в центре подготовлены специалисты, овладевшие



Courses for parents. Photo: <http://aba.nsu.ru/>

of practical work (ABA) were prepared to work in the center. Finally, the research center is inter-disciplinary in nature. The center will focus on the following goals:

- 1) assist children with autism and adults with ASD and their families;
- 2) develop and implement educational programs and preparation of specialists in the field of applied behavior analysis;
- 3) scientifically research autism problems and organize scientific research related to the evaluation of the effectiveness of applied behavior analysis methods when working with children with ASD and their parents.

We invite all interested researchers, practitioners, and teachers to work in cooperation with us under the auspices of the center. 🦋

наиболее эффективными научно обоснованными методами практической работы (АВА). И, наконец, исследования в центре будут иметь междисциплинарный характер.

- 1) оказание помощи детям с аутизмом и взрослым людям с РАС и членам их семей;
- 2) разработка и реализация образовательных программ и подготовка специалистов в области прикладного анализа поведения;
- 3) подготовка базы для проведения научных исследований по проблеме аутизма и организация научных исследований, связанных с оценкой эффективности методов прикладного анализа поведения при работе с детьми с РАС и их родителями.

Мы приглашаем к сотрудничеству всех заинтересованных лиц: исследователей, практиков, преподавателей. 🦋

Amoy Kito Hugh-Pennie, PhD, BCBA-D



Interview by Jeremy H. Greenberg, PhD,
BCBA-D



Dr. Hugh-Pennie, can you tell the *Operants* readers how you got into the field of applied behavior analysis?

Well, it was actually quite serendipitous! When I was studying psychology at Florida Atlantic University, I saw a flyer advertising free training to work with children with autism. At that time, I had no experience with autism. So, in responding to the flyer, I found myself being trained in the Lovaas method, and that was my first exposure to behavior analysis. I was aware of B. F. Skinner and behavioral psychology. However, at that time, I had never heard the term behavior analysis and didn't even know there was such a program. After that first exposure, I started doing some volunteer work at a local organization working with children with developmental disabilities and autism. I loved it, and it showed. When I moved to New York, I was given the name of Dr. Douglas Greer by a consultant at a school where I was working. I met with him, and next thing I knew, I enrolled at Columbia University, and working at a CABAS® school. The rest is, as they say, history.

What are you doing in the field now?

I've always worked in the fields of education and behavior analysis. I started out teaching in schools both public and private. I also worked with a number of different non-profits supervising, training, and developing applied behavior analysis (ABA) programs. I spent the last 10 years teaching at different universities both in the departments of education and psychology. After years in public and private schools as well as university programs, I felt a desire to apply the principles of ABA with children who were accelerated learners as well as those additionally exceptional. Currently, I coordinate the learning extension services (i.e. gifted and talented services) and ABA services at The Harbour School in Hong Kong. It is a very innovative international school that values the individual learner and allows educators to do the same.

How has behaviorism impacted your life?

I feel behaviorism has positively impacted my life — it provides me a way of seeing myself in relation to other people that I hadn't seen before. I think it makes me more accountable for my own personal behavior with resulting consequences for my children, my spouse, and other people in my life. It also gives me hope that changing patterns of socially significant behaviors over time may have much larger impacts on society in general, hopefully, for the better.

Public schools are reluctant to adopt the science of applied behavior analysis in practice. Are there private institutions where the practice is used successfully?

There are many private institutions from business to detention facilities in which behavior analysis has been effective. Educationally speaking, organizations such as Comprehensive Application of Behavior Analysis to Schooling (CABAS®) schools to programs like Morningside Academy are effectively using behavior analytical methodology and strategies to improve educational outcomes for students. I think some schools are reluctant to adopt the methodology because they feel that it's too complex, that it requires more supervision and training than they're capable of providing, and that it has no benefits beyond its application to children with autism. I think that public schools frequently associate behavior analysis with a way to remediate inappropriate and challenging behaviors as opposed to a way to improve overall academic



Dr. Amoy Kito Hugh-Pennie earned her PhD from Teachers College, Columbia University. She has spent her career working in the fields of education and behavior analysis. As a student member of ABAI she established the Verbal Behavior Student Research Competition of the VB SIG (est. 2002) toward increasing research submissions in the area of verbal behavior. Dr. Hugh-Pennie has sat on the editorial review boards for several behavior analytic journals and has been an invited editor for The Analysis of Verbal Behavior. Currently she is one of the coordinators of the Teaching Behavior Analysis Program Area of ABAI. She has been involved in establishing new ABA programs and advising BACB-approved university programs toward receiving and maintaining credentialing. Her passion is for teaching as applied behavior analysis and working with children to improve lifelong outcomes.

achievement and to foster positive learning environments.

The dissemination of behavior analysis is occurring, although not at a rate that most behavior analysts are satisfied with. However, our science is spreading across disciplines and countries. Do we have better chances of integrating with other sciences and disciplines to make them more effective?


Fortunately and unfortunately in our age of ever-multiplying social media outlets, we have the opportunity to have greater dissemination of applied behavior analysis. The unfortunate side or drawback to having many social media platforms is that there is quite a lot of misinformation that many of us need to take the time to combat. When a field is still relatively young as ours is, there are bound to be many instances of misunderstanding. Also, the need for services outweighs the number of experienced providers or professionals in the field. That being the case, there is a lot of misinformation shared, sometimes by practitioners themselves, about the science.

For example, clients may interpret our interventions as an attempt to change who the clients are at the very core versus trying to provide them with a skill set that will allow them to engage in society in ways that will be socially significant for them. When Skinner talked about the shame of American education, there were a number of things that he was referring to — policy, teacher preparation, application of appropriate strategies to change

behaviors, and the motivation of student learning.


In the 21st-century, there is a greater push toward educational advances that are leading to more openness in the public school system. Many schools have started to adopt more “behavioral” strategies. However, many more people still equate what we do with the “behavior modification” of the past leading to negative images of punishment as laymen interpret it. In order to continue moving in a positive direction, it is important to provide translations of what we do to people in other fields as they often have similar desired outcomes with little understanding of how we are the same and/or different. We are starting to move in the right direction. There is still a lot of work to be done. I like to focus on positive thinking, “We’ve come a long way baby!”


Do you have a favorite piece by Skinner? If so, why?

Of my favorite books by Skinner (and I don’t know that many people would call this their favorite) has to be *Verbal Behavior*. Perhaps, I’m drawn to the controversy. Seriously though, the reason *Verbal Behavior* is my favorite is because every time I pick up that book, I always feel I find something new. When I re-read *Verbal Behavior*, I re-evaluate and connect to other research and advances that are happening in the field around verbal behavior. It pushes me to continue looking for practical ways to use the information to improve children’s experiences relating to the world around them. 



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Li-Yu Hung, PhD

Professor and Chair of Department of Special Education and
Graduate Institute of Rehabilitation Counseling
National Taiwan Normal University, Taiwan



Interviewed and translation by Hui-Ting (Tina) Wang, PhD,
BCBA-D



In Taiwan, you are one of the few scholars who hold expertise in more than a single discipline. You came from a dual background in counseling and special education and from paradigms in cognitivism as well as behaviorism. Your dedications and leadership in both emotional behavior disorders and learning disabilities are obvious. Can we invite you to share your cross-disciplinary learning experience, especially how you include behaviorism into your professional roles in different fields?



Before I went to the United States for my doctoral study, I was very humanistic-centered. I followed the cognitive approach, which was the primary approach in counselor training in Taiwan. During that time, I was told that behaviorism was only suitable for animals and for people with limited cognition. I worked at the Teacher Chang Community Counseling Center as well as in the school district as a school counselor for more than six years. Challenges were obvious in many ways, especially working in schools; the humanistic-centered cognitive approach did not fit well with the existing Chinese education philosophy.

I felt grateful to have learned applied behavior analysis from Professor Martha Snell at the University of Virginia. Through applying the behavioral approach, such as functional assessment, systematic behavior intervention plan, and positive behavior support, it changed my impression of behaviorism. I then took all the course work and practicum very seriously because I realized this is a very professional and useful approach for all persons, including students with special needs or with challenging behaviors. The field opened my viewpoints of working with students. It filled in the gap and freed the limitation of my previous counselor training and of my work with adolescents with emotional and

Dr. Li-Yu Hung obtained both her bachelor's and master's degrees in Educational Psychology from the National Taiwan Normal University and her doctorate in Department of Curriculum, Instruction, and Special Education from the University of Virginia. She serves as a member of the Consultant Committee of Special Education and as a supervisor of Itinerant Behavior Support Teachers for students with special needs in both Taipei and New Taipei City in Taiwan. Dr. Hung has been a pioneer in the fields of emotional behavior disorders, learning disabilities, applied behavior analysis, and positive behavior support. She was also awarded the Wooden Bell for outstanding educational researcher for recognition of her excellence in teaching and research. She has published a list of books and peer-reviewed journal articles and offers academic services domestically and internationally. She is one of the first scholars to offer applied behavioral analysis in the university.

在台灣，您是少數擁有跨領域專長的代表性人物，有著諮商輔導和特殊教育的雙重背景，亦有認知學派及行為學派的多元典範探究。在各身心障礙類別中，您長期用心投入且領導情緒行為障礙和學習障礙領域的趨勢發展。是否可以請您與我們分享如何成功跨領域學習，特別是將行為學派的思維融入您不同的專業角色中？

在

我去美國攻讀博士學位前，我是非常人本主義的，且依循國內諮商訓練最主要的認知學派。在那時，我被告知行為學派只適用於動物和有認知限制的人。我在張老師中心及學校擔任諮商師超過六年。在學校工作其實是很有挑戰的，因為人本主義及認知學派不太和中華文化融合。

我非常感激和維吉尼亞大學的Martha Snell教授學習應用行為分析。透過應用行為方法，如功能評量、系統化行為介入方案和正向行為支持，徹底改變了我對行為學派既有的印象。我便非常嚴謹地修課和實習，因為我明白這對所有人，包含有特殊需求或有行為問題的學生，是非常專業又有用的方法。這領域讓我在教導學生上大開眼界。它克服並彌補了先前我受諮商訓練後服務情緒行為障礙青少年的障礙與限制。在我學習應用行為分析期間，我發現運用應用行為分析來解決我遇到的問題是更實用的，且比其它派別對有特殊需求的學生更人性化。同時，我有修習學習障礙的相關課程，特別是針對有限訊息處理能力或負面學習經驗者的教育策略。加強有學習困難的學生學習新的技巧的相關機制與運用認知方法相似。但是在我想法裡，光只有認知方法是不足夠的，應該要輔以行為方法。因此，我體悟到當我完成學業歸國時，我希望我能用行為的方法來工作。非常意外地，在那時1990年代，對行為學派的誤解還是很普遍存在。

許多在美國受訓練有諮商背景的學者選擇到諮商或輔導心理系任職，但我婉拒了這樣的邀請並選擇到特殊教育系服務。最主要的原因是特殊教育對於我在台灣介紹應用行為分析是個比較有彈性空間的領域。我在那之後才能順利規劃並提供臺灣第一個系統性行為學派的大學課程。另外一方面，我在我社交技巧課程中結合了人本及行為主義，讓課程更全方位。我運用認知理論，但我自詡為行為學家。我一些其它領域的研究生告訴我他們行為主義的學習是受我的影響與指導。

behavioral difficulties. During my study in applied behavior analysis, I found it more applicable and sustainable to solve problems I encountered. Its way of treating students with special needs was even more humanistic than other approaches. Meanwhile, I took some courses about learning disabilities in which I learned different educational techniques to deal with problems due to limited repertoire in processing information or poor learning experience. The mechanism to enhance students with learning difficulties to learn new skills is compatible with the cognitive approach, which in my opinion is not sufficient and should be supplemented with the behavioral approach. I, therefore, noticed that when I finished my study and returned back to my home country, I wanted to keep the behavioral perspective in my practice. However, to my surprise, at the time in 1990s, the myths of behaviorism were still prevailing.

Many U.S.-trained Taiwanese scholars with similar backgrounds joined the Department of Counseling or Guidance Psychology for their careers, but I declined the recommendation and decided to join the Department of Special Education instead. The primary reason was that the special education field was more flexible for introducing ABA in Taiwan. I was able to plan and offer the first systematic training courses in the behavioral approach at the university level in Taiwan. I also combine both the humanistic as well as behavioral approaches in teaching a social skills training course, which makes it more comprehensive. Some of my graduate students from other professional training fields told me that their behaviorism was influenced by me.

I am very glad that the school counseling field is gradually accepting the behavioral approach while I promote school-wide positive behavioral support in schools. The bias against behaviorism is starting to change.

In your opinion, how well does applied behavior analysis fit into Taiwanese culture? What kinds of challenges may we face? What strategies would you provide?

In recent decades, ABA training resources have been greatly supported by the Taiwan Association for Behavior Analysis and the Board Certified Behavior Analysts (BCBAs) in Taiwan. Except for the doctoral level BCBAs who were directly trained in the U.S., there are other certified BCBAs whose practice cannot gain full trust by customers. The primary reason is that there are other highly-competent professional ABA trainers and practitioners who are without the BCBA certification but receive and deliver localized training in Taiwan. Therefore, to promote ABA, it is critical to popularize fundamental training in theory and techniques rather than merely promoting the BCBA certification process in Taiwan. It is not wise to limit the impact of ABA only to BCBAs. In addition, the call for BCBA certification has only been present in Taiwan for less than a decade. Compared to the 20 years of the local group of professionals, there is still a long way to go in establishing competency for the master level BCBA practitioners.

Applying ABA should not be limited in practice and education. If we provide different levels of tiered curriculum to different professional fields and attract them to hire ABA professionals to

最近我極力在學校倡議全校性正向行為支持，我非常開心因此學校諮商領域逐漸在接受行為學派。他們對行為學派的偏見已經開始在改變。

就台灣的現況，您認為該如何在地化落實應用行為分析呢？我們可能會面臨什麼樣的挑戰及是否有因應策略？

台灣目前已經成立ABA協會，也成立提供ABA執照的訓練單位。除了美國取得博士學位的ABA執照取得者，其他具有ABA執照者在很多行為處理的方法和成效尚無法取得國內的信任。主要是因為台灣已經有不少自己訓練的專家在很多方面並不遜色於有證照者。所以ABA要在台灣推行，應該先提供台灣訓練課程相關的資訊，訓練課程應該先廣泛提供理論和技術，不要強求或限制取得執照者，以免縮小了ABA的影響力。而且，以不到10年的證照推廣，要跟台灣將近20年的ABA本土訓練相較，碩士級的臨床工作者可能還有一段距離。

ABA的運用應該不限於臨床、教育或其他方面的運用。如果ABA能夠把理論和課程分層次推廣給不同專業參考設計，讓不同專業科技願意聘用ABA專家開授課程，將可以使ABA的運用更廣。這樣的課程可能需要由台灣相關領域學者一起來討論和建立共識，合作去推廣，且在推廣時如何考慮原先制度的工作者，才能建立制度。先有課程、訓練，再去考慮如何將證照被行政或相關單位採用。建議ABA可以增加與台灣學術單位合作提供相關課程，對於合作訓練課程的證照制度，也可以依據台灣本土的需求有所調整。當然有機會將ABA國際會議在台灣舉行，也會有助於推廣。目前ABA的運用多限於臨床，少考慮環境因素，但台灣文化和不同專業領域的文化在ABA的使用確實有不同，因此考慮生態環境的正向行為支持可能更容易因台灣環境調整而被接受。有關文化產生的議題有待探討。



open related courses in their fields, ABA would be more widely-used. The types of courses rely on consensus and collaboration among scholars. Moreover, they should take the existing system into account. In my opinion, we should first discuss the curriculum and offer ABA training before we have administrators talk about including the BCBA certification as one of the qualifications.

I suggest increasing more ABA courses and combining the certification system offered by academic institutes. Further, training should be adjusted based on local needs. Lastly, if by any chance we could host an international ABA conferences in Taiwan, it would certainly enhance the visibility of ABA.

The current practice of ABA in Taiwan needs to further consider environmental factors. Taiwanese culture and cultures in different professional fields make ABA practice diverse. Hence, behavioral support that emphasizes environmental factors may be more acceptable by people in Taiwan. Culture-related issues need to be kept in the dialogue.



Women Leading ABA within the Ultra-Orthodox Community in Israel

Interview with Mrs. Maggy Sharabhani,
Head of "Mercaz Tnufa," Jerusalem, Israel



נשים מובילות ניתוח התנהגות במגזר החרדי בישראל

ראיון עם הגב' מגי שהרבני

מנהלת מרכז תנופה, ירושלים

Interview and Translation by Eitan Eldar, PhD



Several years ago, Mrs. Maggy Sharabhani, Head of "Mercaz Tnufa" Center for Learning Disabilities and Dean of Special Education studies in "Mercaz Beit Yaakov" Teachers Seminary, together with Mrs. Mina Zelaznik, Principal of "Mercaz Beit Yaakov" Teachers Seminary, came to me with the request to open an applied behavior analysis (ABA) training program within the ultra-orthodox community. This request was fascinating since I see the dissemination of Skinner's behavioral model as one of the main goals of my professional work. It was clear to me however that the challenge would be great because of the vast differences between the public school system where I work and the ultra-orthodox community. My experience within the last few years, working with these incredible women, has been truly inspiring. I saw great strength, sense of commitment, and the various ways that they succeeded in disseminating ABA within their professional field. The special status of these women within the ultra-orthodox community will be discussed during the interview itself. I will say however that I had the real privilege of working with a group of women that paved the way for ABA training programs in the ultra-orthodox community that hopefully gained a lot from them. Most of the interview has been transcribed verbatim in the interviewees' own eloquent words. Moreover, the graduates of the ABA training program in "Mercaz Beit Yaakov" are loyal teachers who invested days and nights in studying and brought to the field ability and knowledge of the highest caliber.

Why were you interested in bringing ABA studies to the ultra-orthodox community?

"Tnufa" has been driven ever since its inception by the desire to give an appropriate, complete, and professional response to the needs of every child who has learning disabilities with the full cooperation of family and school. We started with educational evaluations and expanded as needed. Today, "Tnufa" includes in its services educational and psychological evaluations, occupational therapy (OT), speech therapy (ST), and various emotional therapies (e.g. music therapy).

We were first made aware of the existence of ABA programs about six years ago at a time when it was a known fact within the general population but almost unheard of within

פני מספר שנים פנו אלי הגב' מגי שהרבני, מנהלת מרכז תנופה ומרכזת לימודי המשך לחינוך מיוחד במרכז בית יעקב בירושלים, והגב' מינה זלזניק מהנהלת המרכז, בבקשה לסייע בפתיחת תכנית הכשרה למנתחות התנהגות במגזר החרדי. פניה זו הייתה מרתקת במיוחד עבורי לאור היעד העיקרי של עשייתי המקצועית – קידום והחדרת מורשתו של סקינר לתחומי החינוך והטיפול. בהכירי את המגזר החרדי, היה ברור לי שהאתגר הוא כמעט בלתי אפשרי בשל השוני המהותי בין הסביבה החינוכית הממלכתית אליה אני משתייך לבין הקהילה החרדית. החוויה אותה עברתי ברבות השנים הייתה מדהימה ומרשימה. נוכחתי בעוצמות אדירות של נשות חינוך, המחויבות לשליחותן, ובדרכי הנועם בהן הצליחו להחדיר ניתוח התנהגות אל תוך עולמן המקצועי.

כאשר התבקשתי על ידי עורכות כתב העת Operants להמליץ על

נשים מובילות בתחום ניתוח התנהגות בישראל, היה זה אך טבעי להקדיש את הראיון הזה לנשים המובילות במרכז בית יעקב. על מעמדן המיוחד של הנשים במגזר החרדי, תובא התייחסות בגוף הראיון. לי נותר לומר כי עמדה לי הזכות לשאת פעולה עם קבוצת נשים שפרצו את הדרך לניתוח התנהגות עבור מגזר שלם, שאמור לצאת נשכר מעשייה זו. רוב התוכן של ראיון זה מובא כלשונו, בשם המראיינות שהתנסחו בצורה בהירה ומשכנעת. יתרה מזאת, ניתן לומר כבר עכשיו שבוגרות התוכנית להכשרת מנתחות התנהגות במרכז בית יעקב, הן מחנכות מסורות, אשר השקיעו ימים ולילות בלימודי ניתוח התנהגות, והביאו לשטח ידע ויכולת ברמה גבוהה ביותר.

להלן שאלות הראיון ותשובות המראיינות.

מדוע רציתן להכניס לימודי ניתוח התנהגות למגזר החרדי?

מרכז תנופה מונע מאז היווסדו מהרצון להעניק מענה מושלם, מקצועי ואמין, לצרכים של הילד המתקשה, בשילוב מלא של המשפחה ומוסד הלימודים. התחלנו עם אבחון ומשם התרחבנו והלכנו בהתאם לקריאות מהשטח: אבחון פסיכולוגי, אבחון דידקטי, ריפוי בעיסוק, ריפוי בדיבור, תרפיה במוסיקה וטיפול רגשיים. נחשפנו לתחום של ניתוח יישומי של התנהגות לפני כשש שנים, שעה שהחדירה שלו למגזר הכללי כבר הייתה בגדר עובדה, ואילו הציבור החרדי טרם שמע עליו באופן מובנה ומסודר. הנושא ההתנהגותי טופל על ידי המורות בהכוונה לעיצוב התנהגות מטרתי ללא התייחסות מעמיקה וממוקדת בנסיבות, בתדירות

the ultra-orthodox community. Behavioral issues were treated at that time by teachers within a behavior modification framework without any real reference to the frequency and function of the child's behavior or to the relevance of potential reinforcers to the child. With these behavior modification interventions, even when improvement has been observed, there was no internalization or generalization and in many cases, no maintenance of the modified behavior. The tools that were in use then were limited. Most of the intervention that was done was done intuitively and not structured well. Severe cases were referred to dynamic psychotherapy, its weak point being inconsistent contact with the child's natural environment.

When faced with parents' and school staff's recurring requests for ways to treat and cope with challenging behaviors at school and at home, we needed to come up with solutions that were appropriate for various ages, dilemmas, and persons. We saw in behavior analysis an exemplary tool for achieving results in a short time frame. In addition to its professional advantages, there were other characteristics that enabled its smooth "entrance" into the ultra-orthodox community — being focused, rational, and quantifiable and bringing a world view that doesn't create opposition within the community.

With Rabbi Lieberman's (CEO of Beit Yaakov school system) blessing and with his support, we trained for the first time ultra-orthodox, professional, and qualified behavior analysts while consulting with Dr. Eitan Eldar, chairman of IABA, the Israeli Organization of ABA. Today, "Tnufa" addresses behavioral issues of children at home and at school.

Who is responsible for the establishment of the program and its success?

"Mercaz Beit Yaakov" is an educational body that consists of high schools and teachers' seminaries and is known as a leader of educational and community projects with emphasis on originality, community involvement, and professionalism. "Mercaz Tnufa" was established cooperatively by the teacher's seminary in Jerusalem and the Center for Advanced Studies. Mrs. Maggy Sharabani, is the Dean of Special Education Studies in the seminary and in the Center for Advanced Studies, thereby keeping a careful balance between training professionals and up-to-date professional knowledge and as wide as possible coverage in child services. Rabbi Y. Lieberman, CEO, and Mrs. Mina Zelaznik, principal of the teachers' training program at the seminary and at the Center for Advanced Studies, supplied the resources and impetus and, together, led a process that was exact, thorough, and consistent. Dr. Eitan Eldar, no doubt one of the foremost experts in the field of ABA in Israel, gave us the knowledge, reliability, professionalism, and primacy. Dr. Eldar gave us the tools to train professionals while adapting and adjusting the various training materials, including the main textbook, to the community's demands. The process started by training behavior analysts who would be in charge of the ultra-orthodox training program, and by adjusting it according to the students', the ultra-orthodox women, and the clientele's the ultra-orthodox community in general, sensitivities.

The high level of awareness to the changing needs of parents, teachers, and children, the willingness to advance, improve and change, the determination to make a difference in the professional field, and above all — the graduates in the field and the success — all brought about an outstanding achievement. The year 2016 will see the start of the sixth group of students, with approximately 50 behavior analysts already working, from the north (Tzfat, Tiberias, and Haifa) through the center (Bnei Brak, Elad, Modi'in, and Jerusalem) and to the

ובמחזקים המשמעותיים לילד. באופן זה, גם אם לעתים נצפה שיפור – לא הייתה הפנמה והעברה, ובמקרים רבים גם לא שימור התנהגות. הכלים שבידי הצוות היו מוגבלים, וההתערבות – אינטואיטיבית ולא מובנית כהלכה. מקרים חריפים הועברו לטיפול פסיכולוגי דינאמי, שנקודת התורפה בו הייתה הקשר הלא רציף לשדה.

מול פניות חוזרות ונשנות של הורים ואנשי חינוך, שביקשו כלים להתמודדות עם תופעות בלתי רצויות המשבשות לעתים את התהליך הבריאה במשפחה ובבית הספר, נדרשנו לפתרון שיתאים לכמה שיותר גילאים, דילמות ובני אדם. ראינו בניתוח יישומי של התנהגות כלי מעולה להשגת תוצאות התנהגותיות בתהליך בר ביצוע. בנוסף על יתרונותיו המקצועיים, מספר תכונות בו מיטיבות עם היישום היעיל וההחדרה החלקה אל המגזר החרדי – היותו ממוקד, רציונלי ומדויק, ומביא השקפת עולם שאינה יוצרת התנגדות.

בס"ד בברכתו של הרב ליברמן – מנכ"ל רשת בית יעקב ובתמיכתו הכשרנו לראשונה מנתחות התנהגות מהציבור שלנו ברמה מקצועית ואיכותית טובה בייעוץ של ד"ר איתן אלדר ראש היל"ה – העמותה הישראלית לניתוח התנהגות. כיום המרכז נותן מענה של מנתחות התנהגות לבעיות התנהגות של ילדים בסביבה הלימודית ובסביבה הביתית.

מי אחראי להקמת התכנית ולהצלחתה?

מרכז בית יעקב הוא גוף חינוכי המאחד רשת של סמינרים ותיכונים, ומוכר בציבור החרדי כמוביל מיזמים של חינוך וקהילה, עם דגש על ראשוניות, מעורבות חברתית ואמינות מקצועית מוחלטת. "מרכז תנופה" הוקם בשיתוף פעולה בין הסמינר המרכזי בירושלים, ומרכז ההשתלמויות למורות. מנהלת המרכז, מגי שהרבני, מרכזת את לימודי החינוך המיוחד בסמינר ובלימודי ההמשך וההשתלמויות. בכך נשמר לאורך השנים האיזון בין ידע מקצועי עדכני והכשרת נשות מקצוע לבין כיסוי רחב ככל האפשר בשירותים הניתנים לילד. הרב ישעיהו ליברמן, מנכ"ל הרשת, ומינה זלזניק, מנהלת ההכשרה בסמינר ובהשתלמויות – העניקו את המשאבים והתנופה, והובילו יחד תהליך מדויק, יסודי ועקבי. ד"ר איתן אלדר, אותו ראינו כבר סמך בעניין ניתוח יישומי של התנהגות בארץ, העניק לנו ידע, אמינות, מקצועיות וראשוניות. ד"ר אלדר העניק לנו את הכלים להכשרת כוח אדם מקצועי שיתאים לדרישות המגזר, התאמת חומרי לימוד ואת הספר המרכזי בהכשרה – שבמהלכה, עבר התאמה מלאה למגזר החרדי, כולל למורים. המהלך החל בהכשרת מנתחות התנהגות שתעמודנה בראש הצוות המכשיר, תוך התאמת התכנית במלוא הרגישות לזמדות – נשים במגזר החרדי, ולקהל היעד – הציבור החרדי בכללותו, על גווניו השונים.

המודעות הגבוהה לצרכים משתנים של הורים, מורים וילדים; הנכונות לקדם, לשפר ולשנות; הנחישות להכניס שינוי בשיטות העבודה, ומעל הכול – העובדות בשטח וההצלחה המדברת בעד עצמה, בסייעתא דשמיא הביאו להישגים. בשנת הלימודים 2016 החלה קבוצת המחזור השישי את ההתמחות, כשיש כבר כ-50 מנתחות התנהגות בוגרות ההתמחות העובדות בשטח. החל מהצפון: צפת, טבריה חיפה, ורכסים, עבור במרכז: בני ברק, אלעד, מודיעין, ירושלים וכלה בעוטף ירושלים והדרום: רחובות, באר שבע ואופקים.

south (Rehovot, Be'er Sheva, and Ofakim).

It should be noted that any breakthrough within this sector is not quantified by numbers in the hundreds and thousands. Thorough fieldwork and a lot of patience are needed in a community such as this where the people are not exposed to global trends and where one is expected to rely on the knowledge of professionals. An additional difficulty includes acceptance in the education system that has a chronic lack of tenure positions, especially when wanting to add a new field of study — one that doesn't have enough acknowledgement and/or independent budgetary support. In order to receive recognition by the Board of Education that will result in allocation of appropriate resources, one needs to invest prolonged efforts, constant and wide exposure to the field and its achievements in cooperation with key people in the system. We are presently working to develop awareness within the public through various mediums: newspapers, conferences, and meeting with experts within the ABA field, direct appeals to school principals, country-wide lectures and seminars, and presentations to the Ministry of Education and superintendents. We hope to see continuing quantifiable progress of trainees, and professional application of ABA.

What is the place of these women in promoting this program on an educational level?

Within the ultra-orthodox community, there are segregated school systems for boys and girls from three years of age. The girls' schools have an only-women staff except for specific bible lessons in high school that are sometimes taught by rabbis. Women also teach very young boys up until the age of three and are the core staff in special education schools and/or remedial settings, boys and girls. Men teach boys from the age of four. The presence of other professionals, beyond psychiatrists and psychologists, such as educational counselors and therapists, are a relatively new phenomenon that is gaining track lately.

Behaviorally, there is double importance in a woman's role — as a mother and as a teacher. In our community, even more than in the general public, the mother is the one that spends most of the day with her children, while the man works and/or studies (Bible/Talmud); thereby the mother's interaction with her children is suitable for inculcating appropriate behaviors. Women are also widely encouraged to enter the educational field. Education is seen as the most appropriate field of work and the most esteemed. As such, women who are teachers are considered at the top of the social pyramid and are highly appreciated.

Therefore, most of the ability for social change is in the hands of women. Behavior analysts are teachers or key figures within the ultra-orthodox educational system, and the knowledge that they have acquired through the ABA program has improved their work. Beyond that, they are a central focal point for the entire school staff and help with changing the present point of view regarding behavior and existing behavior modification programs.

As of now, there aren't any ABA programs for ultra-orthodox men. However, there are some boys' schools that work with ABA women (ultra-orthodox). In these schools, the analysts guide the (men) teachers in building ABA programs in their classes.

The book *Applied Behavior Analysis* by Dr. Eitan Eldar that was published along with the initiation of the program is an important training tool for anyone who wants to understand the field of ABA and implement its procedures. The book lays out the method in a very comprehensible manner, using examples and explanations. It is important to note that the book in its entirety was adapted for the community. Editing was cooperative and even exciting with Dr. Eldar who, as usual, was sensitive to our needs and even interested in understanding them.

יש לזכור כי כל פריצת דרך בציבור זה אינה נעשית בקול רעש גדול

ואינה מדברת במספרים של מאות ואלפים. נדרשת עבודת שטח יסודית ואורך רוח כאשר מדובר בציבור שאינו חשוף למגמות עולמיות ונדרש לתת אמון בידע של איש המקצוע. קושי נוסף כרוך בכניסה למערכת החינוך, הסובלת דרך קבע ממחסור בתקנים, קל וחומר - כאשר מעוניינים להכניס מקצוע חדש, אשר אין לו הכרה מספקת ומקור תקציבי איתן. כדי להשיג הכרה שתבטא בהקצאת משאבים - יש צורך בעמל ממושך, בחשיפה מתמדת ורחבה של התחום ושל הישגיו, ובשיתוף פעולה של אנשים מרכזיים במערכת. אנו פועלים לפיתוח המודעות בקרב הציבור במקביל במספר מישורים - כתבות בעיתונות, כנסים לקהל הרחב, פגישות עם מנתחי התנהגות מומחים בתחומם, פנייה ישירה למנהלות בית ספר, הרצאות והשתלמויות ארציות, הצגת התכנית בפני מפקחות במשרד החינוך. אנו מקווים להתמיד במגמת העלייה המספרית של מקבילות ההכשרה מזה, ושל יישום מקצועי מזה, ואף להכפילה ולשלשה.

מהו מקומן של הנשים בקידום הנושא ברמה החינוכית?

במגזר החרדי, מסגרות הלימוד נפרדות החל מגיל שלוש. צוות ההוראה לבנות מורכב ברובו המוחלט מנשים, למעט לימודי הלכה ולימודי מקצוע בכיתות הגבוהות של סוף התיכון / סמינה. נשים משמשות גם כגננות לבנים בגיל הרך, ובמסגרות החינוך המיוחד, ההוראה המתקנת והשילוב - מדובר במורות וסיעות ולא במורים גם במסגרות המיועדות לבנים. הגברים מלמדים במסגרות התורניות החל מגיל 4 - 5, כאשר מן הכיתות הגבוהות של ה"תלמוד תורה" (מקבילה לבית ספר יסודי) ועד ללימודים בשיבות - מורים, 'מלמדים', מגידי שיעור ור"מים (רב המלמד תלמוד ומשמש מחנך בפועל) מעבירים את דרך הלימוד התורני כמקובל. עם זאת, הופעת אנשי מקצוע חרדים בתוך מערכת החינוך (מעבר לפסיכולוגים ופסיכיאטרים) דוגמת יועצים חינוכיים, מטפלים ומומחים - הולכת ומתרחבת גם היא. בהיבט ההתנהגותי, יש משנה תוקף לתפקידה של האישה - אם או מחנכת. מטבע הדברים אף יותר מאשר במגזר הכללי, האם נמצאת עם ילדיה רוב שעות היום כאשר הבעל עוסק בלימוד. גברים עובדים משתתפים לעתים תכופות בשיעורי תורה בשעות אחה"צ והערב כאשר הקשר בין האם לילדים מהווה מסגרת המתאימה ביותר להטמיע הליכים התנהגותיים. במישור החינוכי, למרות הרחבת תחום העיסוק של נשים חרדיות, המקצוע המועדף ערכית ופרקטית נותר - תחום החינוך. החינוך הוא ערך מרכזי בתרבות החרדית, ערך המצדיק 'מסירות נפש' ומתבסס למעלה בסדר העדיפויות - נשים כמחנכות מצויות בראש הפירמידה החברתית.

ממילא, רוב הכוח לשינוי נתון בידיהן של הנשים דווקא. מנתחות ההתנהגות הן מורות או בעלות תפקידי מפתח במערכת, שהידע ההתנהגותי שרכשו בהתמחותן השביח והעמיק את עבודתן. הן אף מהוות אבן שואבת לצוות כולו כשהן עוזרות בשינוי המבט על התנהגות ובבניית תכניות התנהגותיות בבתי הספר בהן עובדות.

כרגע אין עדיין התמחות נפרדת לגברים, אולם כבר ישנם מוסדות בהם מנתחת התנהגות מדריכה את הצוות (הגברי) בהפעלת תכנית התנהגותית בכיתה.

הספר "ניתוח יישומי של התנהגות" מאת ד"ר אלדר שיצא לאור במהלך ההכשרה, מהווה כלי רב ערך לכל מי שמעוניין להכיר את

How does the program work?

The training model

Only applicants with a bachelor's degree (academic or equivalent) and at least five years of educational experience are accepted to the program. Learning requirements and practicum are according to BACB task list criteria. In some subjects, there were some adaptations made for the ultra-orthodox community with professional advice and consent. The lecturers were trained by Dr. Eitan Eldar while some were already BCBA's. The program is a two-year training program, but graduates are given an option to participate for a third year in a supervised applied practicum in the field.

How does Tnufa function?

Parents who apply to "Tnufa" are being referred to an intake with Mrs. Sara Saks who is responsible for the ABA program in "Tnufa." The goal for this meeting is to learn the child's background, to explain the ABA program, and to set expectations. There are home programs that guide the parents in increasing appropriate behaviors and decreasing unwanted ones. School programs are multi-systemic and involve both school and home. The behavior analyst collects data in the child's natural environment through observation and recording. The next step is setting up the appropriate program. The practical application is done by the behavior analyst or by the teacher or parent with guidance by the behavior analyst. The ABA special education experts of "Tnufa" support the Behavior Analysts throughout without any additional pay. Furthermore, there is a large body of professional literature available for the use of the Behavior Analysts.

"Tnufa" provides an answer for families seeking support that goes along with their values. The referrals are varied and diverse — normative children with behavioral challenges at home or at school, "lightly learning" disabled children, and even children with severe and complex learning disabilities.

How do the graduates integrate in the educational system?

There are behavior analysts that work at regional learning support centers that are part of the Ministry of Education's application of special education integration law. Others work at ALUT (The Israeli Society for Autistic Children), and some work at schools for children with behavioral difficulties. Behavior analysts have advanced a lot, largely due to their quality work as educators. Some were made principals, inspectors, and lecturers and are offering seminars and lectures in various venues throughout the country. Behavior analysts that do continue teaching apply diverse behavior programs within classroom settings. They guide their peers in a way that enables administrators to learn about the ABA approach and its effectiveness. As a result, in many instances, the school administration recognized the usefulness of behavior analysts and even allocated school hours for the position.

What difficulties are you facing?

First of all, the field is still new, and as of now, we are in the position of "spreading the news" and proving its effectiveness in the long term. Behavior analysts are not recognized as an official position in the educational system, and therefore, there is no budgetary allocation by the school system. Kupot Holim (the Israeli health system) does not recognize ABA as

התחום מבפנים ואף להפעילו. ספר זה פורש באופן בהיר את עיקרי השיטה ואת המושגים הקשורים בה, ומרחיב את היישום בעזרת דוגמאות והסברים. חשוב לציין שהספר כולל, לרבות הדוגמאות והאיורים, הותאם בצורה מירבית למגזר החרדי על כל גווניו. עבודת העריכה הייתה משותפת – וניתן לומר אף מרתקת עם ד"ר אלדור, שכדרכו גילה רגישות מקסימלית, ורצון להבין לעומק את הצרכים.

כיצד מתקיימת התכנית?

מודל ההכשרה

לתכנית מתקבלות לומדות בעלות תואר ראשון (אקדמי או אקוויולנטי) עם 5 שנות ותק לפחות בעבודה חינוכית. דרישות הלמידה והעבודה המעשית הן לפי קריטריונים בין לאומיים. במספר מצומצם של נושאים נדרשה התאמה למגזר החרדי וזו נעשית בליווי והסכמה מקצועית. צוות המרצים הוכשר על ידי ד"ר איתן אלדור כאשר חלקן בעל הסמכה - BCBA. התכנית הנה דו שנתית ולמסיימות ניתנת אפשרות להשתתף בשנה ג' במפגשי סופר-ויז'ן - ליווי בעבודה עפ"י תחומים נבחרים.

מהו מודל העבודה בתנופה

ההורים הפונים ל"מרכז תנופה" מוזמנים למפגש אבחון ראשוני עם האחראית על קבלת הורים למנתחות התנהגות, הגב' שרה זאקס לקבלת הרקע של הילד, תיאום ציפיות, והסבר על התכנית. ישנן תכניות ביתיות המנחות את המשפחה בדרכים להגברת התנהגויות או הפחתתן בבית ובסביבות שונות. תכניות במוסד הלימודים הן רב מערכתיות מול ביה"ס וההורים. מנתחת התנהגות מבצעת הערכה תפקודית ראשונית בסביבתו הטבעית באמצעות צפייה ואיסוף נתונים. שלב בניית התכנית מגיע לאחר מכן; יישום התכנית יכול להתבצע באופן אישי ע"י מנתחת ההתנהגות או ע"י מתן הדרכה למפעילי התכנית ההתנהגותית - מורים והורים. ב"מרכז תנופה" צוות מנחות בעלות וותק רב בתחום החינוך המיוחד מלווה את מנתחות ההתנהגות לבניה וביצוע מקצועי, ללא תוספת תשלום מצד הפונים. ב"תנופה" נאסף חומר מדעי מקצועי ומגוון העומד לרשות מנתחות ההתנהגות. המרכז נותן מענה לילדים שהוריהם מבקשים טיפול התואם להלך הרוח וההשקפה בהן ילדם גדול וחונך. הפניות המגיעות אלינו מגוונות - מילדים נורמטיביים לחלוטין עם קשיי התנהגות שונים בבית או במסגרת הלימודית, דרך ילדים עם ליקויים קלים ועד ללקויות קשות ומורכבות.

כיצד נקלטות הבנות במערכת החינוך?

ישנן מנתחות התנהגות שנקלטו במתי"א (מרכז תמיכה יישובי אזורי של משרד החינוך, התומך ביישום חוק החינוך המיוחד), אלו"ט (האגודה הלאומית לילדים אוטיסטים) או בבתי ספר להפרעות התנהגות, בדרך כלל באמצעות מדור דרושים. מנתחות התנהגות קודמו רבות, הודות לתנופה שקיבלו באיכות עבודתן בהוראה, מתוכן התקדמו לתפקיד מנהלות, מפקחות, הדרכות צוות, ומנחות, מרצות, מעבירות השתלמויות במת"סים ובסמינרים שונים ברחבי הארץ. מנתחות התנהגות הממשיכות בתפקיד ההוראה מפעילות תכניות בתוך כיתתן ומקדישות מזמן להנחה לצוות ביה"ס, דבר אשר מאפשר להנהלה להכיר בגישה ההתנהגותית ולחזות בייעולות. כתוצאה מכך, במקרים לא מעטים נעזרה ההנהלה במנתחות התנהגות, והוקצו לה שעות מיוחדות לכך.

7. מהם הקשיים בהן אתן נתקלות?

ראשית - התחום עדיין חדש, וכרגע אנו במקום של "הפצת הבשורה" והוכחת היעילות של ניתוח יישומי של התנהגות בשינוי לטווח ארוך. מנתחות התנהגות

a therapeutical field, so parents do not receive any financial support through their health provider. Another challenge is the fact that there is no communication between the ultra-orthodox sector with its own educational system, and the public education system. Therefore, there is no way right now to receive budgetary allocations for behavior analysts within the schools or pre-schools.

What are the successes?

The term "behavior analysts" has been absorbed in the ultra-orthodox school vernacular, and slowly but surely, there are more and more referrals — from all over the country. A number of special education schools have given their school staff a seminar on ABA, and several even hired behavior analysts as part of their professional staff. Recently, Mrs. Sara Saks was asked to establish an ABA program in certain pre-schools in Petach Tikva in order to prevent future behavioral difficulties. Moreover, this year Mrs. Sara Saks is guiding "Ptachiah" child care centers for Down syndrome with positive outcomes. The staff under her guidance is generating a real change in their work and is activating several ABA programs, starting with three-month-old children up to three years of age with an emphasis on developing independence and initiation. Graduates of the program are invited to give lectures at various teachers' forums in order to provide additional ways to teach effectively.

What are your future plans?

We are striving to achieve accreditation by the Behavior Analyst Certification Board (BACB) in order to increase the program's professionalism and to expand the activities within the ultra-orthodox school system (Chinuch Atzmai) so that every school will have a behavior analyst as part of the staff. Our vision is to be the ultra-orthodox center for ABA training and to open additional branches in Bnei Brak, Haifa, all through the country, from the north to the south.



אינן מוכרות כתפקיד בעל תקן במשרד החינוך ולכן אין תקצוב לבתי ספר עבורו. גם בקופות החולים, עדיין אין הכרה בנייתו יישומי של התנהגות כאחד מתחומי הטיפול הנדרשים במערכת הבריאות, ואין החזרים למשפחות המעסיקות מנתחי התנהגות באופן פרטי. אתגר נוסף מהווה העובדה שאין התקשרות בין המגזר החרדי, שחינוך עצמאי הוא חלק בלתי נפרד מאושיותו, לבין המתי"אות – ובשל כך אין כרגע דרך לקבלת תקציב להעסקת מנתחת התנהגות בבתי ספר ובגנים.

מהן ההצלחות?

המושג "מנתחות התנהגות" נקלט בחברה החרדית, ולאט אבל בטוח מתקבלות עוד ועוד פניות – מכל הארץ. מספר בתי ספר לחינוך מיוחד העבירו את הצוות החינוכי השתלמות בתחום ניתוח התנהגות (בני ברק, ירושלים, פתח תקווה) וחלקם מעסיקים מנתחי התנהגות באופן קבוע (בני ברק, רחובות, פתח תקווה). לאחרונה התבקשה הגב' שרה זאקס להקים מודל התנהגותי בגנים רגילים בפתח תקווה, וזאת במטרה למנוע נשירת ילדים מהמערכת הרגילה עקב בעיות התנהגות. בנוסף, בשנה זו מדריכה הגב' זאקס במעונות "פתחיה" לילדי תסמונת דאון, וישנה התקדמות עצומה בתפקוד הילדים. הצוות בהדרכתה מחולל שינוי מהותי בדרך העבודה, ומפעיל תכניות התנהגותיות החל מגיל 3 חדשים ועד לגיל שלוש שנים. נכון להיום ההתמקדות היא בתחום היוזמה ועצמאות (לא להיות מובלים ע"י הצוות). בוגרות ההתמחות מוזמנות לסמינר שונים ברחבי הארץ ללמד קורסים, במטרה לתת למתמחות בהוראה כלים יישומיים להוראה יעילה.

מהן התכניות שלכן לעתיד?

אנו שואפות להשגת הסמכה לתעודה מטעם הבורד (BACB), כדי להעלות את ערכה המקצועי של ההכשרה. הרחבת הפעילות בבתי הספר של החינוך העצמאי, במטרה שבכל ביה"ס תהיה מנתחת התנהגות למספר שעות. החזון שלנו הוא להיות המרכז החרדי להכשרה של מנתחות התנהגות, ולפתוח סניפים בבני ברק, ובשלב הבא בחיפה ובערים נוספות בפריסה של דרום מרכז וצפון הארץ.





Dr. Olive Healy, BCBA-D

Trinity College Dublin
Ireland

profile



Interview by Dr. Katerina Dounavi, BCBA-D



Olive Healy is co-director of the master's program in applied behavior analysis at the School of Psychology, Trinity College Dublin. She received her PhD from University College Cork in 2000, where she trained in the experimental analysis of behavior under the supervision of Dermot Barnes-Holmes. She was involved in opening the first government-funded ABA school in Ireland under the auspices of the Comprehensive Application of Behaviour Analysis to Schooling®. Olive was a founding director of the first research centre for neurodevelopmental disorders in Ireland at NUI Galway in 2012. Her research focuses on the treatment of challenging behavior and co-morbid conditions in autism and related developmental disorders. She also works on disseminating focused behavioral interventions to impact on educational outcomes within marginalised communities. Dr. Healey has authored over 60 academic papers and book chapters published in both behavior-analytic and mainstream psychology journals.

How did you become interested in behavior analysis?

I was first introduced to behavior analysis as an undergraduate in Applied Psychology at University College Cork, Ireland. My initial exposure to the science involved a heavy emphasis on the experimental analysis of behavior through the teachings of Professor Dermot Barnes-Holmes. During the late 1990s, Professor Barnes-Holmes was identified as the most prolific author in this field and enthusiastically translated the fruits of his research in his teaching. The emphasis on consequential control and the effects of scheduling specific consequences to alter behavioral patterns made me inquisitive about the principles of behavior. The behavior analysis laboratory led by Professor Barnes-Holmes was vibrant with many different research programs and enthusiastic students conducting experiments on diverse areas of behavior analysis.

My studies in this area led me to realize the significance of motivation (drive) and reinforcement (reward) in human learning. Following my undergraduate degree, I decided to pursue a PhD in behavior analysis with a focus on relational frame theory and the demonstration of relational responding as a higher-order operant. During the final year of my PhD, I was fortunate enough to be introduced to Professor Doug Greer, Professor of Psychology and Education at Teacher's College, Columbia University. Professor Greer's work at this time had attracted international attention as he focused on developing a system or school-wide intervention approach to the treatment of children with autism diagnoses. This was my first introduction to the application of behavioral strategies to children with neurodevelopmental disorders. My interest and enthusiasm in applied behavior analysis (ABA) accelerated from this point, and I embraced the opportunity to work and learn from Professor Greer and his colleagues. In 1998, the Irish government agreed to provide funding to pilot a school focusing for the first time on the application of behavioral technologies to the treatment of young children with autism. With Professor Greer at the helm, the school grew in size, and additional centers were established across Ireland all focusing on the *Comprehensive Application of Behavior Analysis to Schooling* (CABAS®). I was passionate and driven to ensure that children with autism could achieve the best chance at a developmental trajectory that would produce optimal outcomes for both themselves and their families. The careful emphasis on the selection and implementation of teaching strategies to suit the learner and the concise measurement of skill acquisition/behavioral reduction showed me the value of teacher performance in overcoming learning obstacles. I viewed this interaction between teacher and student as "learning on both sides of the equation".

Could you tell us about your research interests and current projects?

I oversee many research programs across various streams. For example, I am interested in research that addresses severe behavior problems and behaviors that are refractory to treatment in individuals with developmental disabilities. Although the field of applied behavior analysis has developed and examined a myriad of interventions to reduce specific target behaviors in clinical populations, including autism spectrum dis-

order and intellectual disabilities, there is still a need to expand and develop these evidence-based approaches. Tailoring such approaches and determining suitability of specific interventions to individual-service users continues to be an important focus. In addition, I believe that there still remains a gap between research and practice, and I am passionate about addressing this in services in Ireland. I currently lead a program of research funded by the Irish Research Council, which facilitates an examination of transferring approaches to behavioral assessment and design of intervention drawing from extant evidence-based practices to frontline staff within intellectual disability treatment centers. I am excited to see the impact this will have on staff, service users, and service provision.

Drawing from my earlier experience of working directly with parents of young children with autism, I am also very passionate about equipping parents with behavioral skills training. In Ireland, this is still greatly lacking. I have published research that has shown the extent of behavioral problems in autism and how this can impact functioning later on in life. Given the manifold evidence-based behavioral interventions for skill acquisition and prevention of the onset of challenging behavior, it is extremely frustrating to me that these practices are not more widely accessible to parents. Recently, we have adopted a protocol that targets key domains in three- to five-year-old children with autism, which is parent-led and focuses on skill acquisition to prevent the emergence of prevalent problem behaviors in this population. The protocol equips parents in behavioral skills that directly target salient problems including the need for demands to be met immediately, temper tantrums, and tolerance of change. In line with this, one key question that we are currently examining is what obstacles exist in the uptake and implementation of behavioral interventions by parents of children with autism. Although we have a sundry of such interventions to teach new behaviors and replace unwanted ones, these interventions are often not well utilized in the home or community settings. Many children with neurodevelopmental disorders could be showing more promising outcomes if interventions were delivered more contingently and consistently. In my opinion, the translation of, and more frequent uptake and effective use of, behavioral interventions by primary care givers warrants further examination in my opinion.

I also conduct research that focuses on stereotypy and repetitive restrictive behaviors and interests in autism. Often, the focus of early intervention is on communication and social skills, yet these target behaviors can frequently result in what Whitehouse and Lewis have importantly referred to in 2015 as “a generalized inflexibility or lack of variability in responding.” My PhD students, past and present, have worked on developing protocols that could displace repetitive and rigid behaviors at a young age utilizing: (a) lag schedules of reinforcement during naturalistic play conditions and (b) inhibitory stimulus control proce-

dures that contextualize the emission of stereotypes including echolalia and motor movements resulting in increased self-monitoring and self-management. This work is important at an early age as colleagues have recently shown that early behavioral problems, including the need for demands to be met immediately and intolerance of change, predict the symptoms of generalized anxiety disorder during adolescence. I believe that a greater emphasis on the utility and delivery of preventative behavioral protocols during the early years in autism continues to be necessary.

I have recently developed a partnership with The Yulius Academy Rotterdam that involves the development of research with adolescents with high-functioning autism. Studies have shown that the core symptoms of autism (social and communication deficits) hinders experiences related to sexuality and relationships. The need for specialized sex education programs during puberty in this population has been highlighted, and the application of the “Tackling Teenage Training” program targeting psychosexual development is being examined through a randomized control trial in Ireland.

Recently, my graduate PhD student, Sinéad Lydon, and I have been focusing on behavior analysis and psychophysiology. While operant theory has allowed for the development of effective behavioral interventions for challenging behaviors such as self-injury and stereotypy, the etiology of such behaviors remains largely unknown. An abundance of theories exist and posit that these behaviors may be the result of physiological dysregulation or atypical physiological processes. However, there is currently a limited body of research empirically examining the relationship between physiological activity and engagement in challenging behavior.

How is your work applicable to practitioners?

I am often frustrated by the many continual misconceptions and misrepresentations in Ireland about the science of applied behavior analysis. My good colleagues, Karola Dillenburger and Mickey Keenan, recently wrote about the gulf in science-based intervention in the treatment of autism between North America and Europe. We still have a long way to go in this country to ensure that practitioners are knowledgeable and equipped with empirically-supported behavioral approaches to the treatment of neurodevelopmental disorders. We also have to continue to correct misconceptions of the science. I have been vociferously critical of the general “eclectic” methodological approaches to the education of autistic children within special and mainstream schools in Ireland. My research has compared non evidence-based approaches to the treatment of challenging behavior in autism to empirically supported function-based behavioral treatments. This work has led to some controversy and was cited by the American Academy of Pediatrics in 2012 in their policy statement relating to sensory integration therapies for children with developmental and behavioral

***I view the interaction
between teacher and
student as “learning on both
sides of the equation”.***

disorders. The statement can be viewed at this link: <http://pediatrics.aappublications.org/content/pediatrics/early/2012/05/23/peds.2012-0876.full.pdf>.

The goals of my research are to ensure the translation and uptake of evidence-based practices in the treatment of neurodevelopmental disorders. I envisage a future for Ireland in which ABA will be readily available to parents of children with complex developmental challenges. Through my teachings and research at Trinity College Dublin, more practitioners who are eligible for BACB certification are being produced into the developmental and intellectual disability sectors. However, it is only now that we have started seeing specific posts within services in Ireland for board-certified behavior analysts. This is promising and exciting as it means that more graduates of ABA will be working as part of multidisciplinary teams in service provision. I think these expert practitioners will play a very valuable role in developing services and ensuring greater quality of life outcomes for service users and their families. I am proud that my PhD students have taken up posts in universities in Ireland and abroad, and they are continuing to develop research questions from their dissertations.

Is there a key feature of your research that you would like to highlight?

In 2012, I was lucky enough to have the opportunity to become involved in developing a specialized approach to educating children who came from disenfranchised communities in inner city Dublin, and were identified as at risk for early school leaving. I have a great admiration for The Morningside Academy, Seattle and the work of Kent Johnson and colleagues. Over the years, many of my students have spent time at their summer school program and have brought back much expertise as a result of the quality training they received. I am hugely excited by the possibilities of incorporating research-based teaching methods into mainstream education and employing behavioral interventions to improve motivation in learning. In our mission to improve the educational and behavioral outcomes of these children, we follow the unique attributes of Morningside:

We take an applied science approach and look for effective, research-based instructional materials, methods, and tools. We user-test what we find, seeking quantitative evidence of their effectiveness in increasing student achievement. (see <http://www.morningsideacademy.org/>)

morningsideacademy.org/)

We recently published some of the outcomes of our work available at this link: <https://aran.library.nuigalway.ie/xmlui/handle/10379/4962?show=full>

Are there any particular questions that researchers have not responded to yet in the field of applied behavior analysis and on which you would encourage further study?

I believe that future studies in the field of applied behavior analysis will incorporate a greater focus on clinical neuroimaging studies. My students and I have begun to collaborate with neuroscientists to incorporate a neurological validation of specific behavioral interventions. We know that environmental factors and early experience plays a critical role in the development and attenuation of specific problem behaviors in autism. Behavioral interventions can significantly alter behavioral patterns, and the extent of the changes in brain pathways that mediate these behavioral deficits and excesses as well as the resulting clinical importance warrants further investigation.

There are many neurodevelopmental disorders that have not yet been examined in relation to clinical need and long-term outcomes. For example, it

is only recently that children with Fragile X syndrome have been included in studies employing behavioral assessment and intervention. Results are promising, but there is still a great need to determine how interventions can be tailored to this population and how these can alter the course of development in the long term. My colleagues and I are currently examining phenotypic data in neurofibromatosis to determine clinical need and the utility of behavioral interventions drawn from the science of ABA in this population. I would like to see the application of the principles and strategies of behavior analysis grow outside of autism treatment, and I think there is great scope for this in the future.

I continue to closely follow the work of Professor Greer and colleagues in Columbia University. Their recent research outputs warrant great credit and provide a “building block” approach to piecing together important behavioral cusps in young children with autism and other developmental disorders. I think this is an area of research that opens new avenues and many possibilities. I am excited to be part of future collaborations with this group.



Maria Amalia Pie Abib Andery

Pontifícia Universidade Católica de São Paulo

São Paulo, Brazil



Interview and Translation from Portuguese
by Andre Saconatto



How you did you get into the field of behavior analysis?

When I was taking the undergraduate course in psychology at Pontifícia Universidade Católica de São Paulo (PUC/SP), a number of disciplines were taught by behavior analysts. Many students got interested and a “concentration area” was created. Professor Gary Martin came to Brazil to help to develop a course in behavior analysis to be offered to students. By that time, I started an internship in an institution for people with intellectual disabilities. We developed programs based in behavior analysis. The application included training people who worked at the institution, reorganizing the institution, planning and applying skill development programs to the interns. When I finished my undergraduate studies, I got a master’s degree at the University of Manitoba, supervised by professor Gary Martin. Then, I came back to Brazil and started to teach at PUC/SP and I have been with this university ever since. In 1990, I finished my PhD and the dissertation was a review of Skinner’s proposals to society. The dissertation, a theoretical one, analyzed Skinner’s work from 1931 until 1953. It was the first attempt in Brazil to make a historical analysis of Skinner’s texts.

Today, I’m a professor at PUC/SP, with academic activities in behavior analysis at both undergraduate and graduate levels. I participated in the creation of the advanced program in behavior analysis, which offers master’s and doctor’s degrees. It’s rated with excellence by the government agency that evaluates graduate courses in Brazil — CAPES. I’m currently responsible for all graduate programs at the PUC/SP, one of the most prestigious universities of Brazil.

I have graduate students, both master’s and doctoral candidates. Along



Maria Amalia Pie Abib Andery

- Bachelor in Psychology at Pontifícia Universidade Católica de São Paulo
- Master in Psychology at University of Manitoba
- PhD in Social Psychology at Pontifícia Universidade Católica de São Paulo
- Post-doctoral internship at University of North Texas
- Professor at the faculty of Psychology and at the graduate program in behavior analysis at Pontifícia Universidade Católica de São Paulo

Maria Amalia Pie Abib Andery

- Graduada em Psicologia pela Pontifícia Universidade Católica de São Paulo
- Mestre em Psicologia pela University of Manitoba
- Doutora em Psicologia Social pela Pontifícia Universidade Católica de São Paulo
- Estágio de pós-doutorado na University of North Texas
- Professora da faculdade de psicologia e do programa de estudos pós-graduados em Psicologia Experimental: Análise do Comportamento.

Como você entrou na área de Análise do Comportamento?

Na minha graduação – em psicologia – várias disciplinas eram dadas por analistas do comportamento. Muitos alunos se interessaram e uma “área de concentração” foi oferecida aos alunos. Para definir um projeto de formação em análise do comportamento veio ao Brasil o Dr Gary Martin. Nesse período também comecei a trabalhar como estagiária em uma instituição que abrigava deficientes intelectuais. Desenvolvemos programas de análise do comportamento. Foi uma ampla intervenção que envolveu: treinar pessoal, reorganizar a instituição, planejar e aplicar programas de treinamento de habilidades nos internos. Encerrada a graduação, fiz o mestrado na University of Manitoba, orientada por Gary. Voltei ao Brasil e comecei a dar aulas na PUC/SP onde estou até hoje.

Em 1990 defendi tese de doutorado com o tema: Skinner e suas propostas para a sociedade. O trabalho – teórico – analisou a obra completa de Skinner desde 1931 até 1953. Foi o primeiro trabalho com esse formato – de análise histórica do texto – sobre o tema no Brasil.

Hoje, sou professora da PUC/SP, com atividades acadêmicas de graduação e pós-graduação em análise do comportamento. Participei da criação de um programa de pós-graduação em análise do comportamento, que tem mestrado e doutorado e é avaliado como de excelência pela CAPES (agência governamental responsável por acreditar e avaliar a pós-graduação no Brasil). Atualmente sou Pró-Reitora de Pós-Graduação e Pesquisa da Pontifícia Universidade Católica de São Paulo que é uma das Universidades mais prestigiadas do Brasil.

Mantenho orientandos de mestrado e doutorado e continuo, na medida do possível, coordenando o grupo de pesquisa com meus alunos: nossos interesses são comportamento social, seleção

with my students, I coordinate a research group that specializes in social behavior, cultural transmission and cultural selection. Besides conceptual discussions, we developed an experimental research protocol that has helped us to comprehend the mechanisms involved in behavioral and cultural selection. The experimental research protocol has played an important role in the dissemination of the subject in the behavior analysis community.

It is clear that your career was built upon behavioral science. Did it have any effect on you personally?

Since I was an undergraduate student, I've defined myself as a behaviorist. My whole career in psychology was built on that perspective. Behaviorism also changed my understanding of the world. As a professor, researcher, and now as a manager of the academic institution, I act in ways that are consistent with a behaviorist perspective: I believe that people should be evaluated by their actions. I believe that positive consequences are more productive. I believe that it is possible to change people's behavior by providing socially relevant contingencies, that we should base our decisions on data and not merely on impressions, that verbal behavior is extremely relevant, and that instructions are not always enough to generate and maintain relevant behaviors. All these beliefs have impacted my life.

Our field is faced with issues resulting from difficulties in understanding or, worse, accepting the concepts of radical behaviorism by the general public. One reason is technical, with aspects such as operant conditioning, schedules of reinforcement, and so on. Cultural concepts and practices are another reason, along with religion and law institutions that are impervious to any shift in view and practice. Are there better approaches to address this problem that have not yet been tried?

In my opinion, behaviorism is a philosophy that cannot be imposed. In the first place, it's important to emphasize that many philosophies and lifestyles with other vocabularies are close to behaviorism's perspective. We don't need and shouldn't clap them down, just because they don't share this perspective in details, or in their terminology.

Regarding the institutions and world visions that are contradictory with the behaviorist's perspective: First, we need to realize that they exist because they have a function. Second, if they exist it is because they were socially transmitted. To handle those perspectives, we need to comprehend their function, how they are maintained, and how they are transmitted. If we can have access to relevant variables than we can change some of them.

Finally, it's important to remember that the cultural and social worlds are extremely complex. I think we should define priorities and narrow down the concepts that we try to communicate to the general public. The rest will come naturally. To me what's important is to convince people of a selectionist perspective: The consequences of our actions (the predicted and the unpredicted ones) are determinants of the future, near and distant.

Public schools are not adopting behavior analysis in their methodology. If the approach is working successfully, why it is not spreading?

e transmissão cultural. Além de discussões conceituais, nós desenvolvemos protocolo de pesquisa experimental que tem auxiliado a compreensão dos processos de seleção comportamental e cultural. O protocolo de pesquisa experimental tem tido um papel importante na disseminação do tema na comunidade de análise do comportamento.

Está claro que sua carreira foi construída sobre a ciência comportamental. Isto teve algum efeito na sua personalidade?

Desde a graduação defini-me como behaviorista. Na psicologia toda minha carreira foi construída nesta perspectiva. O behaviorismo formatou também minha perspectiva diante do mundo. Penso que como professora, pesquisadora e, agora, gestora de uma instituição acadêmica atuo de maneiras consistentes com uma perspectiva behaviorista: acredito que as pessoas devem ser avaliadas pelas suas ações. Eu acredito que consequências positivas são mais produtivas. Eu acredito que é possível mudar as ações das pessoas dispondo contingências sociais relevantes, que devemos basear nossas decisões em dados e não em meras impressões, que comportamento verbal é relevante ao extremo, mas que instruções nem sempre são suficientes para produzir e manter comportamentos relevantes... todas essas crenças – behavioristas – ao lado de outras impactaram minha vida.

Na comunidade behaviorista há dificuldades em entender, ou pior ainda, aceitar os conceitos do behaviorismo radical pelo público em geral. Isso se dá, parte por aspectos técnicos tais quais, condicionamento operante, esquemas de reforçamento e assim por diante. Concepções culturais e práticas são outros aspectos, junto com instituições legais e religiosas que são impenetráveis a quaisquer mudanças. Há maneiras mais efetivas de lidar com esta questão que ainda não foram tentadas?

Penso que o behaviorismo é uma filosofia que não pode ser imposta. Em primeiro lugar, é importante destacar que com outro vocabulário muitas filosofias e estilos de vida se aproximam de uma perspectiva behaviorista. Não precisamos e não devemos combatê-los, apenas porque não partilham no detalhe e no vocabulário a perspectiva behaviorista.

Quanto a instituições e visões de mundo que são contraditórias com o behaviorismo: em primeiro lugar, é preciso ter clareza que se existem cumprem alguma função. Em segundo lugar, se existem é porque foram "transmitidas socialmente". Para lidar com tais perspectivas é necessário compreender qual é sua função, como são mantidas e como são transmitidas. Se pudermos ter acesso a variáveis relevantes poderemos mudar algumas delas.

Finalmente, é importante termos clareza que o mundo social e cultural é hoje extremamente complexo. Penso que devemos definir prioridades e tentar convencer nossos concidadãos delas. O restante virá "naturalmente". Para mim o que é essencial hoje é convencer as pessoas de uma perspectiva selecionista: de que as consequências de nossas ações (antevistas e não pre-vistas) são determinantes do futuro (próximo e distante).

Escolas públicas são relutantes em adotar a análise do comportamento em suas metodologias. Se a aplicação é bem sucedida, por que não se espalha?

Pelo menos no Brasil, no caso da educação formal e regular essa efetividade não foi demonstrada. Com o risco de

At least in Brazil, in the area of formal and regular education the effectiveness has not been demonstrated. At the risk of being criticized by my colleagues, I would venture to say that neither has it been demonstrated in other countries, as far as I know. What we have are statements, not the large scale demonstrations that would allow us to affirm: It works! The effective demonstration of applications and possibilities is a responsibility of the behaviorist community. It should be done on a scale that is much larger than controlling a specific behavior, a small set of abilities, or a single classroom.

It appears that in the U.S., behavioral science is moving away from laboratory work. What is happening in the area of experimental research in Brazil?

Again, the situation in the U.S. is different from that in Brazil. We need to recognize that we also have a decrease in number of laboratories in Brazil, mainly due to the lack of interest and framework to study certain topics. On the other hand, we do have some laboratories which are examples of new possibilities through experimental examination of more complex processes (e.g. cultural selection or complex stimulus control) and these labs clearly show potential.

I think that the development of behavior analysis is essential, or behaviorism will become a sterile philosophy of historical interest. However, the development requires first that we ourselves, as a community, be more open and flexible to novelty. We need to impact those beyond the small circles that read our few small journals or publish in them. People in these circles investigate only what is “established” to be important, using procedures judged a long time ago to be the only suitable ones, producing data analysis on patterns defined as the desirable ones by the editors of the same journals. If we do not change our journals and do not establish an intellectual contact with other communities, we’ll see the same weakening of basic research in the behavior analysis movement as in other places. We will also risk witnessing seeing the last laboratories in the USA being closed.


Do you see the growth of behavioral analysis coming through integration with other disciplines?

Yes, I do. We need to define the principles that we consider non-negotiable (e.g., our selectionist perspective). On that basis we can get to know others — they may not share the same perspective as we do, but if they think in ways which are compatible with ours, we need to get familiar with their methods and results.

What do you think of women’s participation in the field of behavior analysis? How do you see the future of their involvement?

Women make half of the world’s population. They should be represented in behavior analysis proportionally. We should give an example to the world.

Do you have a favorite book by Skinner?

No. Each period of Skinner’s 60 years of production have articles, books, and chapters that are fundamental to understand his thoughts on, and plans for science and philosophy that emerge in his work. 

ser criticada por meus colegas, arrisco-me a dizer que também não o foi em outros países, até onde eu saiba. Temos sim demonstrações pontuais, Mas nenhuma demonstração em larga escala que permita mostrarmos: funciona! Cabe à comunidade behaviorista ainda – a efetiva demonstração de suas possibilidades. Isso tem que ser feito em escala que é muito maior que a demonstração de controle de um comportamento, uma sala de aula, ou um pequeno conjunto de habilidades.

Nos EUA a ciência comportamental está se distanciando do laboratório. O que tem acontecido com a pesquisa experimental no Brasil?

Mais uma vez, a situação dos EUA e do Brasil são diferentes. É preciso reconhecer que temos também no Brasil alguma diminuição em laboratórios que se dá, principalmente pela falta de interesse e estrutura para o estudo de certos temas. Por outro lado, temos alguns laboratórios que são exemplo de novas possibilidades, que examinam experimentalmente processos mais complexos (como seleção cultural, ou controle de estímulos complexos) e que mostram sinais claros de potencial.

Penso que o desenvolvimento da análise do comportamento é essencial, ou o behaviorismo tornar-se-á uma filosofia estéril, de interesse histórico. Entretanto, esse desenvolvimento pressupõe em primeiro lugar que nós mesmos, enquanto comunidade, sejamos mais abertos e flexíveis à novidade. Nós precisamos buscar impacto para além das pequeníssimas comunidades que lêem e podem publicar em nossos poucos e pequenos periódicos. Pessoas nesse círculos investigam apenas os problemas estabelecidos como importantes, com os procedimentos julgados desde há muito os únicos adequados, produzindo análises de dados nos padrões definidos como desejáveis por seus editores). Se não mudarmos nossos periódicos e se não buscarmos contatos intelectuais com outras comunidades, certamente veremos o mesmo movimento de enfraquecimento da pesquisa básica em análise do comportamento em outros lugares. Nós também corremos o risco de ainda ver o fechamento dos últimos laboratórios nos EUA.


Você ve o crescimento da Análise do comportamento a partir da integração com outras disciplinas?

Sim eu vejo. Nós precisamos definir os princípios que consideramos inegociáveis (por exemplo, nossa perspectiva selecionista), se de fato procurarmos conhecer o que fazem outros que não têm exatamente nossa perspectiva mas que pensam de maneiras que são compatíveis com a nossa e se conhecermos seus métodos e resultados. E se atualizarmos nossa agenda de pesquisa e de intervenção.

O que você acha da participação das mulheres na construção da Análise do Comportamento? Como você vê o futuro do envolvimento delas?

As mulheres são metade da população no mundo. Deveriam estar assim representadas na análise do comportamento. Deveríamos nos ocupar de dar exemplo ao mundo.

Você teria algum artigo ou livro favorito do Skinner?

Não. Cada período dos 60 anos de produção de Skinner tem artigos, livros, capítulos que são essenciais para entendermos seu pensamento e as propostas de ciência e filosofia que emergiram em seu trabalho. 



profile

Dr. Francesca degli Espinosa, BCBA-D Southampton, UK



Interview by Dr. Katerina Dounavi, BCBA-D



Francesca degli Espinosa has worked with children with autism for nearly 20 years. Her clinical and research interests focus on advanced applications of contemporary analyses of verbal behaviour not only as a basis for teaching generalised verbal repertoires, but as a means of minimising the need to teach specific individual verbal responses. During her time as the University of Southampton's lead clinician for the first UK-based Early Intensive Behavioral Intervention (EIBI) outcome study, Francesca developed the Early Behavioural Intervention Curriculum (EBIC) as a framework for intervention derived from functional analyses of language—work that subsequently formed a principal focus for her doctoral thesis in 2011. Francesca currently teaches verbal behaviour across a range of BACB-approved European postgraduate courses. She provides applied behavioural interventions for families and educational institutions both in the UK and in Italy, where she has mentored many of her home country's currently certified BCBAs and continues to supervise Italian behaviour analysts of the future. Francesca lives in Southampton, UK.

Verbal behavior is the essence of human existence and one of the most fascinating areas within our field. How did you choose to focus on efficient procedures for teaching verbal behavior to individuals with ASD?

In 1996, I was an undergraduate psychology student looking for a job when I saw an advertisement in my student hall posted by a family trying to find a tutor to teach their daughter with autism using behavioral approaches. I knew very little about autism. I knew even less about behaviorism other than what I had learned from introductory lectures on the history of psychology in which I had been told that behaviorism was a discipline that had been superseded by cognitive approaches because it could only explain observable behavior and could not account for complex human activities such as language. I worked as an ABA tutor throughout my undergraduate studies with a number of students with autism and became effective in the use of prompting and fading for the shaping of verbal topographies. I was aware that regardless of their level of functioning, my students remained unable to generate novel, untaught responses. This was not simply a problem with generalization—something that could be resolved by teaching each response or response class through a program of generalization—but with generalized learning itself: the ability to demonstrate novel responses without each individual response having previously been individually reinforced. I debated whether this problem reflected a syndrome-specific deficit of autism, a limitation in curriculum design and techniques, or a problem with the field of behavior analysis. I began in fact to wonder whether my anti-behavioral professors had been right all along.

By 1999, I was near to completing my degree and considering an offer to enroll for a PhD in developmental cognitive psychology. Hank Schlinger's (1995) book *A Behavior-Analytic View of Child Development* found its way to my bookshelf and made my mind up for me. It was a book that showed me that behavior analysis could indeed provide a conceptually systematic account of child development, and so I remained in ABA. I began supervising Early Intensive Behavioral Intervention (EIBI) programs in the U.K. and in Italy, my home country. In 2001, I was employed by the University of Southampton to lead the clinical intervention for the first U.K.-based evaluation of the effectiveness of EIBI and to design the curriculum for a group of children who were to receive EIBI within that research program. At this time, I was also fortunate enough to attend one of Vince Carbone's first workshops in the U.K. As I listened to Dr. Carbone's explanation of the application of Skinner's analysis of verbal behavior to teaching language to children with autism, I became aware of the contrast between the behavioral procedures of EIBI and the primarily psycholinguistic theoretical frameworks within which those procedures were employed. The structural approaches that were at the time being widely used, either explicitly or implicitly, within language instruction for children with autism seemed remarkable because one of behavior analysis's most powerful technologies is its uniquely functional account of verbal behavior.

My efforts to understand the sources of stimulus control for verbal

behavior began—initially with Skinner’s (1957) *Verbal Behavior* and by natural progression, to more recent developments of its core principles. Essentially, I became focused on attempting to answer two key questions: Firstly, how functional accounts of language development can be translated into practical interventions that promote the emergence of generalized verbal behavior in children with autism and secondly, how interactions between speaker and listener behavior can be manipulated to maximize the effectiveness of those interventions.

How has Skinner’s work and Dave Palmer’s conceptual analysis affected the way you teach verbal behavior (e.g., with the aim to avoid rote learning and increment-derived learning)?

As a clinician and researcher, my principal interest is to design instructional programs that teach generalized multiply-controlled verbal behavior to children with autism within a conceptual framework that is exclusively behavior analytic in principle and practice. In my work, I have attempted to go beyond existing research that has focused on the establishment of primary operants at the single-word level.

I am very aware that as soon as a basic verbal behavior repertoire has been established, further explanations become necessary to account for and further procedures to teach the interactions of its parts. In *Verbal Behavior*, Skinner discusses how it is essential to recognize both conceptually and practically, that “verbal behavior is usually the effect of multiple causes. Separate variables combine to extend their functional control, and new forms of behavior emerge from the recombination of old fragments.” It is well known that from three years of age, typically-developing children naturally demonstrate generalized and multiply-controlled verbal behavior, including autoclitics. They are, for example, able to provide full-sentence answers to novel questions about ongoing and past events, to describe their own experiences, and to respond to a diversity of novel instructions. Around the age of four, they become able to explain how they know something and to understand how others may see things in a way that is different from their own. Children with autism do not typically develop in this way. As a result, one of the greatest challenges currently facing applied behavior analysis is how to teach such complex verbal behavior to children who don’t naturally acquire it.

So how can behavior analysts meet this need? Dave Palmer provides a parsimonious behavioral interpretation of human behavior including memory, problem solving, the function of structure in language, the verbal behavior of the listener, and the role of multiple control in verbal conditional discrimination. Palmer expanded into areas of enquiry that have by many been considered beyond the scope of our science. I believe that Palmer’s work provides clinicians with the conceptual basis necessary for developing programs of instruction in which language objectives can be organised along a continuum of increasingly complex stimulus control. We move away from teaching every single requisite response within specific situations toward a technology that establishes the complex verbal behavior necessary for responding to multi-step instructions and stories (i.e., novel combinations of verbal stimuli). Answering novel questions, recalling past events, and generating grammatically correct descriptions of

public and private events are all under environmentally valid sources of stimulus control.

During the last two decades, research on complex human behavior including verbal behavior has greatly increased. Is there a key aspect you would like to highlight related to clinical applications aiming to establish verbal behavior?

We must change our focus when teaching language to students who do not learn language naturally within their verbal community. We must shift our focus from using echoic prompts to establish individual verbal responses to understanding the controlling variables responsible for classes of responses. It is necessary to arrange contingencies so that those classes can be brought under natural sources of stimulus control. When writing educational objectives for instance, we are very efficient at using operational terms to define behavioral change that needs to take place: the antecedent stimuli, the prompts, the reinforcement schedule. Rarely, however, do we make reference to the controlling variables under which those responses are acquired and maintained, i.e., the sources of stimulus control responsible for those changes. I would suggest that this task should begin with classifying behavioral objectives that share an essential commonality as variations of the same underlying skill. Doing this will allow us to focus on teaching that underlying skill. Let me give an example. Early objectives in most language programs for children with autism are tacting common nouns (e.g., names of animals) and tacting the names of colors either on color swatches or groups of identical items (e.g., colored pens). Typically, these skills are taught by presenting a non-verbal stimulus (e.g., a picture of a cat) and a verbal stimulus (the question “What is it?” or “What color is it?”) followed by an echoic prompt with levels of reinforcement varied depending on the student’s performance. Eventually, the child will learn to say “cat” when presented with the picture of a “cat” and the question “What is it?” and to say “white” when presented with a white color swatch and the question “What color is it?” Typically, we understand that the child’s saying “cat” upon contacting the picture of the cat and saying “white” when seeing the color swatch are under the simple control of those individual non-verbal stimuli (i.e., that the child is tacting the non-verbal stimuli that have been presented).

Let’s now imagine the same child in the evening at home with mum, looking at a picture of a book with lots of animals in it. Mum points to a white cat (a compound stimulus) and asks, “What color is it?” The child says, “Cat.” The child has made a verbal conditional discrimination error or in other words, has not differentiated his response based on the question asked despite having mastered the component tacts. Mum might say to the behavior analyst the following day that even though her son can label the color “white,” he does not understand the question “What color is it?” The problem here does not lie with the child, his diagnosis, with stimulus generalization, or with faulty “retrieval” of the word “white” but with the strict stimulus control under which those individual responses were originally taught. When this procedural limitation is recognized, it becomes clear that a shift from teaching tacting under the simple control of non-verbal stimuli to teaching tacting under the multiple control of non-verbal and verbal stimuli is essential to establishing the skill of appro-

priately answering (i.e., successfully discriminating) different questions about ongoing events.

On the basis of this analysis, if we understand the contingencies that govern the “underlying ability” to match answers appropriately to questions asked, we can move away from current practices of prompting and differentially reinforcing every single verbal response within numerous individual verbal repertoires toward procedures that establish generalized question answering.

By recognizing that answering different specific questions about different specific stimuli involves both verbal and non-verbal control, we will become able to arrange our language objectives so that when the verbal building blocks of vocabulary relating to non-verbal stimuli (e.g., colors, nouns, shapes, action verbs, locations) are in place, the generalized skill of responding under multiple control can be established. Once completed, previously mastered component tacts will consequently be emitted under the naturally-occurring multiple sources of control necessary for students to demonstrate the verbal behavior commonly referred to as “comprehension” or “understanding the question.” I believe that this conceptual framework must be fundamental to all effective language training. Without it, we will remain able to teach no more than rote responding.

Are there any particular questions that researchers have not yet responded to in relation to verbal behavior and on which you would encourage further study?

As the first question in this article suggests, nearly everything that we do as human beings involves verbal behavior. Because of this, it seems clear that behavior analysts must continue to strive to develop maximally-effective interventions to teach generalized complex verbal behavior to individuals who don’t acquire it naturally within their verbal communities. Nevertheless, despite this goal, it must be remembered that the deficits in verbal behavior that characterize autism may in fact, result from other more central, deficits in interpersonal interaction and socially-reinforced behavior as Mundy, Sigman and Kasari have discussed. It can be argued, therefore, that any intervention to teach verbal behavior must seek not only to teach verbal behavior itself, but also to establish the presence, actions, and speech of others as discriminative stimuli and conditioned reinforcers that will evoke and maintain verbal behavior during the intervention and beyond. In attempting to do this however, every behavior analyst will face the same fundamental challenge: How can behavior be established for which typically reinforcing stimuli do not function as reinforcers? In other words, how can social behavior be established through interaction with other people when such interactions are not naturally reinforcing?

In considering the relationship between social interaction and autism, I believe it will be useful for us also to remember that although behavior analysis has not yet provided a complete operational account of the variables that control the types of behavior commonly held to denote “Theory of Mind,” a conceptual framework for so doing already

exists in the work of Skinner (1957) and Schlinger (2009), both of whom underscore the fundamental role of the social community in establishing tacting of private events in early childhood. Within this framework, in typically-developing individuals, a “Theory of Mind” results from extensive experience of social interactions and consequent acquisition of complex overt and covert verbal behavior through social reinforcement (i.e., from early childhood, the speech of, and interactions with others function as conditioned reinforcers). Because of an insensitivity to such sources of reinforcement, crucial verbal and social repertoires that the typically-developing child acquires naturally are usually deficient in individuals with autism and, as a result, we face a fundamental problem in teaching language to such individuals in an environmentally-valid way (i.e., in bringing their verbal behavior under the control of social reinforcers). In 1966, Lovaas and his colleagues discussed the social repertoires of other people: more specifically, if interaction with other people is not a source of reinforcement, behavior such as looking at people, reading the facial expressions of others, seeking their attention, developing language to interact with them, and responding in socially appropriate ways to their changing behavior is likely to be deficient. Because of this, I believe that we, as behavior analysts, would do well to set as a priority a coherent analysis of the stimulus control responsible for the behavior held to evidence Theory of Mind, on organizing that behavior into a hierarchy of complexity, and lastly, on arranging the contingencies necessary to engender the emergence of that behavior in a developmentally-appropriate order.

In behavioral terms, “having” Theory of Mind about another person is tacting the variables that are controlling that person’s verbal and/or non-verbal behavior. To be able to engage in such verbal behavior, we must first learn to tact the verbal or non-verbal stimuli that evoke what we ourselves say and do (e.g., “I know Daddy is washing the dishes because I can hear the plates rattling.”) As a result of extensive personal experience of such behavior, we would have learned to tact the future probability of another person’s verbal or non-verbal behavior by contacting an event that shares common properties with our own previous experiences (e.g., “Molly thinks her Mummy is washing the dishes because she can hear the plates rattling.”). I would suggest therefore that research into the component verbal behaviors of Theory of Mind will pay the greatest dividends for behavior analysis,, both applied and experimental, and that Skinner’s *Verbal Behavior* and Schlinger’s *Theory of Mind: An Overview and Behavioral Perspective* provide the initial conceptual framework for such research to be conducted. Although a framework is in place, I believe that ultimately, proof of a coherent operational analysis of Theory of Mind will come from the applied field: demonstration of the controlling variables will be in the procedures employed in successfully producing Theory of Mind in those who lack it and arguably, need it most – children and young people with autism. To me, this is the most important and urgent research question that behavior analysts have yet fully to address, both conceptually and in application. 🌀

Two Women, Two Paths: From Skinner to a Special Imprint in the Behavior Analysis Community in Israel



Shiri Ayvazo (PhD, BCBA-D)

Director of the Applied Behavior Analysis Certification Program,
David Yellin Academic College)

Gili Yahav (MA, BCBA)

Director of Beit Lior)

Met Shiri Ayvazo and Gili Yahav, who for over a decade, have worked in Israel's young and growing field of behavior analysis. Both of them are committed to advancing Skinnerian science albeit in different tracks. *Operants* brought Gili and Shiri together on a sunny day for a collegial discussion about their personal and professional growth within the science. Both are very close in age and had begun their keen involvement in the behavioral science at the end of the 1990s. Shiri's background was in sport and physical education, and from there, she began helping children with severe problem behaviors. That is when she began shaping her dispositions as a behaviorist. Today, she is a researcher and a lecturer in higher education and a director of a certification training program for behavior analysts. Gili became acquainted with Skinnerian science through the therapeutic field and was one of the first women to acquire formal training in behavior analysis in Israel. Today, Gili runs a private center, *Beit Lior*, which provides training for behavior therapists, and behavioral clinical interventions for children and adolescents with developmental delays and autism.

Shiri, how did you become interested in Skinner's science and why was it appealing to you?

While earning my bachelor's degree in physical education, I enrolled in an internship in applied behavior analysis. During this internship, I took a course in the philosophy of behaviorism where we read Skinner's *About Behaviorism* (1974). This book was fascinating and life-changing for me. It made prodigious sense to me. It offered logical, pragmatic, and realistic explanations for many behavioral phenomena that spurred my curiosity and occupied my thoughts. It provided me with a conceptual framework that helped me explain the world around me and my own behavior. The knowledge gained in this course defined and clarified the



Dr. Shiri Ayvazo



Gili Yahav

שתי נשים, שני נתיבים – מסקינר

ועד לחותם ייחודי בקהילת ניתוח

התנהגות בישראל

ד"ר שירי אייבזו (התוכנית לניתוח

התנהגות יישומי, המכללה האקד-

מית ע"ש דוד ילון, ירושלים)

גילי יהב (בית ליאור, חולון)

הכירו את שירי וגילי, שתי נשים העוסקות בתחום של ניתוח התנהגות בקהילה הקלינית והאקדמית הקטנה והצומחת של ישראל למעלה מעשור שני מסלולים שונים של שתי נשות מקצוע – המטביעות חותמן, כל אחת בדרכה הייחודית שלה, של תורתן של סקינר. לאור הגיליון המיוחד של נשים במדע, נפגשו השתיים כדי לשוחח על תחומי העניין הסקינריאניים המשותפים להן, תרומתן לקהילה המקצועית והאקדמית, והתפתחותן האישית והמקצועית בתוך מדע זה. שתיהן, בנות כמעט אותו הגיל, החלו את דרכן הסקינרית והמעורבת במדע ההתנהגותי בערך באותן השנים, סוף שנות ה-90. שירי, הגיעה משדה הספורט והחינוך הגופני, וצמחה משם לעבודה עם ילדים עם בעיות התנהגות ולעיצוב עולמה כהתנהגותנית. כיום היא מרצה וחוקרת באקדמיה, וראשת תוכנית לימודים להכשרת מנחתי התנהגות. גילי גם היא פגשה את המדע הסקינריאני ראשית דרך השדה הטיפולי והייתה מבין הנשים הראשונות שלמדו ניתוח התנהגות יישומי בתוכנית הכשרה בישראל. כיום היא מובילה מרכז פרטי, בית ליאור, להכשרת מטפלים התנהגותיים ולטיפול התנהגותי מותאם אישית לילדים ומתבגרים עם עיכוב התפתחותי ואוטיזם. גיליון נשים במדע של אופרנטס איחד את שירי וגילי בצורה יום קייצי לשיחת עמיתות על התפתחותן במדע.

שירי, איך התחלת להתעניין במדע של סקינר ומה בו שבה אותך? בלימודי התואר הראשון שלי בחינוך גופני, נחשפתי להתמחות בלימודי ניתוח התנהגות יישומי. כחלק מהתמחות בת שנתיים זו, למדתי קורס שנקרא הפילוסופיה של הביהביוריסם ובהלכו קראנו את משנתו של סקינר בספרו על הביהביוריסם. ספר זה היה מרתק ומשנה חיים עבורי. הוא עשה עבורי משמעות רבה בכך שאפשר הסבר הגיוני, פרגמטי ומציאותי לתופעות התנהגותיות רבות שסיקרנו אותי והעסיקו את מחשבותי.

educational practices I was applying with my students and athletes, and I became increasingly better in understanding and explaining my practice behaviorally.

Gili, how did you learn about Skinner's science, and how did it link to your clinical work?

I became acquainted with Skinner's science through my clinical experience as a therapist where we had applied his comprehensive doctrine. I started my career as a behavior therapist with young children with autism based on the research by Ivar Lovaas (1987). I searched for academic opportunities to study applied behavior analysis. When the university opened such a program, I immediately enrolled, and that was when I first heard of Skinner. I was astounded by his research that advanced the science and assisted researchers, like Lovaas, to establish effective, even life-saving, clinical models for children with developmental delays.

Gili, what are your current occupations in the field of applied behavior analysis?

I am a board-certified behavior analyst and together with my spouse, we run a center that provides behavior services for children with autism and developmental delays and trains behavioral therapists. I firmly believe that influence on the clinical field should be made by education and training. Therefore, I develop training programs for behavior therapists. I teach these programs, and I train and supervise other instructors who are involved in them. I also provide behavioral therapy service for families of children with developmental delays. This part of my work is highly significant and extremely motivating. For example, just a few weeks ago, we celebrated a great achievement of an 11-year-old boy who has been my patient for the past six years. He went on a field trip with his scouting group. He slept the night out with his friends and instructors. This is an exciting accomplishment, the fruits of enormous efforts to promote the inclusion of this child with his typically-developing peers.

Shiri, what is Skinner's influence on your current activities?

Since graduate school, I have read and consulted Skinner's books and writings at all times. In every dilemma, prior to each class I taught and with every challenging question, I revisited Skinner's philosophy. I continue to find his ponderings and argumentations extremely sound and relevant today. Therefore, I return to Skinner's books to refresh and clarify logical explanations prior to every pivotal discussion I have with policy makers in various educational settings in Israel. One of the repeating issues in such conversations, for example, is the role of emotions in the understanding of human behavior. The behaviorist's view of emotions is quite different from what conventional psychology paradigms argue. Therefore, I must elucidate the theory clearly and convincingly, and I find Skinner to be the most helpful source for that. In most cases, Skinner's deliberations help me clarify my point of view.

Gili, why do you feel it is important to impact the therapeutic field by education and training?

In my earlier experiences, I realized the enormous demand for therapists to work with children. However, the absence of structured training and the lack of knowledge and experience was atrocious. I also felt that people disrespected behavioral treatment and that behavior therapists did not have a common language. Later, I found myself repeatedly instructing people in a disorganized, unsystematic fashion. I remember returning home at night, sharing my concerns with my spouse – why does it have to be this way? His response was – if it does not have to be this way, let's change it! The change was opening the first center of its kind in Israel that systematically trains behavior

הוא הקנה לי מסגרת מושגית שאפשרה לי להסביר את העולם סביבי ואת התנהגותי שלי. הידע שצברתי בקורס זה הגדיר והבהיר את הפרקטיקות החינוכיות אותן יישמתי עם תלמידים ומתאמנים וכך השתפרתי יותר ויותר בהבנת הפרקטיקות שלי מבחינה התנהגותית ובהסברתן.

גילי, איך את נחשפת למדע של סקינר וכיצד זה התחבר לעשייה הטיפולית שלך?

הכרתי עם המדע של סקינר נעשתה ראשית דרך היישומים הטיפולים של תורתו הנרחבת. התחלתי את הקריירה כמטפלת התנהגותית לילדים עם אוטיזם בגיל הרך, בטיפול התנהגותי על פי המחקר של לובאס (1987). חיפשתי ועקבתי אחר ההתפתחויות האקדמיות והמתנתי לתוכנית שתיפתח בתחומי הלימוד של ניתוח התנהגות יישומי. מיד עם פתיחתה של תוכנית הלימודים באוניברסיטה הצטרפתי לספסל הלימודים ושמעתי לראשונה על סקינר. נדהמתי לקרוא וללמוד על המחקרים שתרמו לעולם המדע וסייעו לחוקרים כמו לובאס לבסס מודלים קליניים מוצלחים ומצילי חיים עם ילדים בעלי עיכובים התפתחותיים.

גילי, מהם עיסוקיך היום בתחום של ניתוח התנהגות יישומי?
כמנתחת התנהגות אני מנהלת יחד עם בן זוגי מרכז ללימוד הטיפול ההתנהגותי ולטיפול בילדים עם עיכוב התפתחותי ואוטיזם. אני מאמינה מאוד בהשפעה על השדה הטיפולי דרך עולם ההכשרה וההוראה. לכן, במסגרת המרכז אני מפתחת תוכניות הכשרה למטפלים התנהגותיים, מלמדת בהכשרות אלו ודואגת להדרכתם של המדריכים המלמדים בתוכנית זו. בנוסף, אני כמובן עוסקת בטיפולים התנהגותיים למשפחות שלהן ילדים עם עיכובים התפתחותיים. עבודה זו מאוד משמעותית עבורי ונותנת לי את המוטיבציה להמשיך ולעסוק בתחומי. לדוגמה, רק לפני מספר שבועות הצלחנו להגיע לאירוע שיא בו ילד בן 11, שהוא ממטופלי כבר מזה 6 שנים, יצא לבד השנה לטיול של תנועת הצופים ולן את הלילה מחוץ לביתו יחד עם חברים ומדריכי התנועה. זהו הישג אדיר ומרגש מאוד והוא פרי עבודה מאומצת של שילוב ילד זה בחברת ילדים אחרים בעלי התפתחות תקינה.

שירי, מהי השפעתו של סקינר על העשייה שלך היום?

מאז לימודי ההשכלה הגבוהה שלי כתביו של סקינר מלווים אותי בכל עת. בכל סוגיה שעולה, לקראת כל שיעור שאליז אני נכנסת ללמוד, עם כל שאלה מאתגרת בה אני נתקלת, אני חוזרת לקרוא את תורתו הפילוסופית של סקינר. עד היום אני מוצאת את תהיותי וטיעוניי אל מול זרמי הפסיכולוגיה המסורתיים מאוד רלוונטיים וחזקים. לקראת כל דיון משמעותי ומכריע שיש לי עם קובעי מדיניות בתחומי חינוך שונים בישראל אני חוזרת אל ספריו של סקינר שוב כדי להתרענן ולהתחדד מבחינת הנימוקים הלוגיים של, לדוגמה, מהו מקומו של הרגש בהבנת התנהגות של אדם. תפיסתו של הביהביוריסט בנוגע לרגשות שונה משמעותית מהסברים של פרדיגמות פסיכולוגיות מסורתיות. לפיכך, עלי להסביר את התיאוריה באופן ברור ומשכנע, ואני מוצאת את מקורותיו של סקינר המסייעים ביותר למטרה זו. במרבית המקרים הסבריו של סקינר מסייעים לי להבהיר את נקודת מבטי.

גילי, מדוע את מתעניינת דווקא בהשפעה על שדה הטיפול דרך הוראה והכשרה?

החוויות המוקדמות יותר שלי הראו לי כי בצד הדרישה העצומה לאנשי טיפול שיעבדו עם הילדים, חוסר הניסיון, חוסר הידע והיעדר הכשרה מסודרת היה משווע. כאדם בודד חשתי כי לא מתייחסים באופן מספיק מכובד לטיפול ההתנהגותי וכי אין שפה אחידה בה מדברים המטפלים ההתנהגותיים. מצאתי עצמי מדריכה שוב ושוב אנשים נוספים, באופן שאינו מאורגן ומסודר. אני זוכרת את עצמי חוזרת בלילות וחולקת את דאגותי עם בן זוגי – מדוע זה צריך להיות כך? בתמורה, הוא חזר אלי ואמר, אם זה לא צריך להיות כך, בואי נשנה זאת! השינוי כלל פתיחת מרכז ראשון מסוגו בישראל המכשיר מטפלים התנהגותיים בצורה שיטתית. הצוות המוביל במרכז כולל מנתחי התנהגות מוסמכים המלמד תוכנית לימודים סדורה, הכוללת לימודים עיוניים, הכשרה מעשית, ליווי

ותמיכה למציאת עבודה והמשך התפתחות מקצועית במהלכה. בכל פעם שאני מדריכה מטפלים התנהגותיים בקורס חדש אני רואה בעיני רוחי את הילדים שייתרמו מכך. זו תחושה מאוד מספקת לדעת שאדם שמעוניין בהכשרה שכזו יכול לקבל אותה בצורה מסודרת מאיתנו, ערוץ שלא היה קיים עבורי כאשת מקצוע צעירה לפני למעלה מ-10 שנים.

גילי, מה לדעתך סקינר היה אומר לו היה מבקר היום בישראל?

אני חושבת שסקינר היה אולי מופתע מכך שהביהיוריזם עוד לא כבש את העולם, את החינוך, המדע ואפילו את קובעי המדיניות בצמרת המדינה. סקינר היה בודאי מופתע שמנתחי התנהגות טרם מוגדרים כקבוצה מקצועית מוכרת, וכי ניתוח התנהגות יישומי טרם מוגדר כמקצוע רשמי. אני חושבת שאולי היו לו אפילו מספר עצות טובות להעניק בנוגע להתמודדות שלנו בביסוס ניתוח התנהגות יישומי כדרך ייחודית לחינוך וטיפול. אני יכולה גם לומר כי אנו מדברים רבות על סקינר ומשנתו בקורסי ההכשרה שלנו את האנשים מן השורה. סקינר היה נפעם לגלות עד כמה הוא מדובר במערכות היחסים השונות המתקיימות בין מנתחי התנהגות, הורים שמקבלים הדרכה ומטפלים המעניקים טיפול לילדים.

שירי, מה תמליצי לביהיוריסט המתחיל? והאם היית עושה משהו אחרת אילו היית ניתנת לך ההזדמנות?

ההשפעה של סקינר עלי הייתה מכריעה וחבל שהייתי צעירה מדי ולא הספקתי לשמוע הרצאות אמיתיות וחיות שלו. כאשת מקצוע שלמדה בארצות הברית אך חיה בישראל, אני מרגישה שהריחוק ממקורות הידע והמדע החיים והמשגשגים עומד בעוכרינו וכך גם הקושי השפתי. לאור זאת ובכל זאת, אני ממליצה לכל מנתח התנהגות מתחיל שמתחבר ומוצא את עקרונות הפילוסופיה הביהיוריסטית מתיישבים עם תפיסת עולמו, מערכת אמונות וערכים או אפיסטמולוגיה שעמה הוא מגיע לספסל הלימודים, לא לוותר ולא לקצה, אלא לקרוא את ספרי הפילוסופיה של סקינר במיוחד אמליץ על הספרים: על הביהיוריזם (1974), מעבר לחופש ולכבוד (1971), ומדע והתנהגות בני-אנוש (1953) בסביבה מקצועית כמו שלנו בה מנתחי התנהגות, כאנשי מקצוע וטיפול, הם האחרונים שהגיעו לשבת סביב שולחן הטיפוליים, אני משוכנעת כי עליהם לדעת ולהבין היטב את הפילוסופיה עליה מושתת המקצוע שלהם. זאת כיוון שבסביבה שאיננה התנהגותית מקצוע זה מזמן לנו מחלוקות עמוקות ביותר אל מול גישות טיפוליות אחרות, ועל מנתח ההתנהגות נדרש לטעון ולהסביר כהלכה טענות, לעשותן משכנעות, ולהיות מסוגל להתמודד בדיון מקצועי ו/או אקדמי על נחיצותן, תרומתן וחיוניותן של מדע זה לחינוך וטיפול בבני אדם. אם הייתה לי ההזדמנות לטוות את דרכי אחרת כביהיוריסטית, יתכן שהייתי מעוניינת להשקיע מאמץ רב יותר להכרה טובה יותר של הזרמים הנוספים בפסיכולוגיה וגישות טיפול. אני סבורה כי היכולת לנהל שיח עם אנשים המגיעים מאפיסטמולוגיות ותיאוריות אחרות מושפעת מן הידע וההבנה שיש לאדם על אותן גישות אחרות והיכולת לדבר את שפתן. בנוסף, הייתי מאוד רוצה להעמיק את הידע שלי בתחומי התנהגות ומוח ומדעי הרפואה שכן אני מוצאת את עולמות הידע הללו חסרים מאוד בהבנה עמוקה יותר של התנהגות האדם. אני מקווה שעוד אגיע להרחבות הללו, כל דבר בעת המתאימה.

שירי, האם את סבורה שמשנתו של סקינר רלוונטית למדע של 2016?

לחלוטין כן. זה מדהים בכל פעם מחדש לשמוע קלינאים ואנשי חינוך טוענים טיעונים מעגליים ומשייכים כוח הסברי מוחלט למבנים היפותטיים שאינם ניתנים למדידה או לשינוי יזום ישיר בעולם הטבע שלנו. יש בלבול עצום בין רגשי, לנפשי, חברתי וקוגניטיבי. השימוש המתחלף במילים אלו כדי לתאר איזו התערבות טיפולית צריך אדם לצורך שיפור תפקודו ואיכות חייו הוא מטריד במקרה הטוב, ומזיק במקרה הרע. בתוך הערפול המושגי והתיאורטי הזה, אני מוצאת שסקינר וממצאיו המדעיים, וכן את מחקרי ניתוח התנהגות יישומי רלוונטיים ביותר לעשיית עולם זה למקום טוב יותר. אין זה צירוף מקרים שב-2015 הבית הלבן פרסם צו נשיאותי המנחה ומורה לקובעי מדיניות לעשות שימוש ניכר יותר בגוף ההוכחות המשכנע הצומח ממדעי התנהגות ומהפסיכולוגיה ההתנהגותית, כדי לשרת טוב יותר את העם האמריקאי; בדומה, ממצאי מחקר בארץ ובעולם מדגימים שוב ושוב נתונים המראים את עליונותן של אסטרטגיות התנהגותיות בחינוך, בניהול קבוצות אנשים, באבחון ובטיפול בקשיי התנהגות ולקויות רבות נוספות; ובאופן מעודד במיוחד, עקרונות של התערבות מבוססת-נתונים ומדידות אמפיריות של התקדמות והישגים מחלחלים במסדרונות משרד החינוך בישראל.

גילי, מה מייחד אותך כמנתחת התנהגות, אישה, עצמאית, בשנת 2016 בישראל?

ראשית יש לומר כי אני גאה ומאושרת להיות אישה, בעיקר בהיותי אימא

therapists. The center's staff are certified behavior analysts who teach a structured curriculum, conduct practical training, assist therapists in finding a job, and provide on-going professional development opportunities. I enjoy instructing behavior therapists as I envision the youngsters who will benefit from their training. I am proud to provide proper behavioral training to people. It is an outlet that did not exist for me as a young professional over a decade ago.

Gili, what do you think Skinner would have said had he visited Israel today?

I think Skinner would have been surprised that behaviorism had not pervaded the world yet, the educational field, the science, and even the country's policy makers. Surely, he would have been surprised that behavior analysts were not formally defined yet as a professional group and that behavior analysis had not been demarcated as a formal profession. I think Skinner could have probably given us good advice on how to establish applied behavior analysis as a unique educational and clinical method. I can also state that we talk much about Skinner and his legacy in our training courses for the laymen. Skinner would have been thrilled to see the extent to which his science is discussed in various communications between behavior analysts, parents who receive consultation, and therapists who provide treatment to children.

Shiri, what would you recommend to the beginning behaviorist? And would you have done anything differently if given the opportunity?

Skinner greatly influenced me, and it's unfortunate I did not attend his professional appearances in conferences. I was trained and educated in the U.S. Today, I reside in Israel. As such, I feel that the remoteness from the active and thriving sources of knowledge and science is a major hindrance as is the language barrier. In light of that and despite of that, I recommend to every beginning behavior analyst not to skip reading Skinner's philosophy books for principles of behaviorism that correspond with his or her world-view, system of beliefs, and epistemology. In particular, I recommend *About Behaviorism* (1974), *Beyond Freedom and Dignity* (1971), and *Science and Human Behavior* (1953). In our work environments, behavior analysts are often the last professionals or clinicians to arrive at the therapy table. I am convinced they ought to know the philosophy that underpins their profession and comprehend it thoroughly. That is because in a non-behavioral environment, our profession evokes extremely profound disagreements with other therapeutic approaches. The behavior analyst is then required to make clear and convincing arguments and to skillfully contend the necessity, essentiality, and contribution of this science to the education and treatment of individuals.

If given the opportunity to do anything different, I would have extended my knowledge of other psychological and therapeutic strands. I believe the ability to have a conversation with a person who differs in his/her theoretical understanding or epistemological belief is influenced by the knowledge and understanding one has on these other approaches and also by the ability to speak their language. I am also very interested in expanding my knowledge in the area of brain and behavior and also in the medical sciences. I often

find these knowledge areas critical for a profound understanding of human behavior. I hope to reach these expansions when the appropriate time comes.

Shiri, do you think Skinner's legacy is relevant to the science in 2016?

Absolutely yes. It repeatedly strikes me when I listen to conversations of clinicians and educators using circular reasoning and suggesting definite explanatory power of hypothetical constructs that cannot be measured nor directly manipulated in our natural world. There is enormous confusion between the words "emotional," "mental," "social," and "cognitive." The interchangeable use of these terms to describe the cause for an observable behavioral problem or the type of therapeutic intervention the person should receive to improve the quality of life is disturbing at best and harmful at worst. In this theoretical and conceptual fuzziness, I find Skinner's scientific findings and the applied behavior analytic research extremely relevant for making this world a better place. It is not a coincidence that the White House Executive Order in 2015 recommended making substantial use of the compelling evidence of behavioral sciences and behavioral psychology to better serve the American people. Similarly, research findings in Israel and around the world repeatedly demonstrate data showing the superiority of behavioral strategies in education, in group management, and in diagnosing and treating behavioral challenges and a variety of disorders. Encouragingly, principles of evidence-based interventions, and empirical measurement of progress and achievement, have pervaded the hallways of the Ministry of Education in Israel.

Gili, what individualizes you as an independent female behavior analyst in 2016 in Israel?

First, I must say I am proud being a female, especially a mother of three children. I am blessed for becoming a behavior analyst prior to becoming a mother, and I am certain that my profession has made easier many of my uncertainties and decisions as a parent. Being a mom and a certified behavior analyst, I believe my uniqueness is my professional initiative – launching the training center for behavioral therapists. The center's contribution to the growth of the behavioral treatment profession in Israel is becoming prominent as we strive to widen distribution of our training courses across the country, center, and periphery. In five years of activity, we have trained approximately 1,200 behavior therapy graduates who are now spread country-wide from north to south, providing essential services for families and children. The value of our services is also evident when families of children with special needs come to the center to learn this high-demand therapeutic profession. They seek to gain knowledge, power, and skills to enhance their ability to cope with their unique daily challenges. I am thankful for the opportunity to contribute to the community by training professional and by empowering special families.

Shiri, what individualizes you as an independent female and a scholar in the behavior analysis field in Israel today?

My scholarly activity began to shine when I made the decision to move abroad to complete my Master's and PhD in behavior analysis and education. As a female, it was a courageous decision to pause my local engagements and move for several years on my own to a foreign country. I was the first

לשלושה ילדים. אני מברכת על כך שהפכתי להיות מנתחת התנהגות לפני שהפכתי לאם ובטוחה כי המקצוע שלי הפך החלטות רבות ומהלכים רבים שלי לקלים יותר עבורי כהורה. בהיותי אם ומנתחת התנהגות מוסמכת, אני סבורה כי אחד מהייחודים שלי כאישה הוא ביוזמה המקצועית- פתיחת המרכז בו אנו מכשירים מטפלים התנהגותיים. תרומת המרכז להתפתחות המקצוע הטיפול בישראל כבר מתחילה להיות ניכרת כיוון ששמנו לנו למטרה להעניק קורסי הכשרה בכל רחבי הארץ, במרכז ובפריפריה כאחד. במהלך כחמש שנות פעילות הכשרנו כבר כ- 1200 בוגרי הטיפול ההתנהגותי אשר פרוסים בכל הארץ מצפון ועד דרום ונותנים שירותים חיוניים של טיפול התנהגותי למשפחות ולילדים הזקוקים לו. את התפוצה והתרומה ניתן לראות גם בכך שמשפחות והורים לילדים עם צרכים מיוחדים מגיעים אלינו למרכז כדי ללמוד את המקצוע הטיפולי והמבוקש הזה. הם מבקשים לרכוש ידע, כוח ומומנויות לשיפור יכולתם להתמודד עם האתגרים היומיומיים הייחודיים שלהם. אני אסירת תודה על ההזדמנות לתרום לחברה בהכשרתם של אנשי מקצוע ובהעצמה של משפחות מיוחדות.

שירי, מה מייחד אותך כמנתחת התנהגות, אישה, עצמאית, בשנת 2016 בישראל?

הפעילות המלומדת שלי החלה לבלוט כאשר החלטתי לצאת ללימודי תואר שני ושלישי בתחומי חינוך וניתוח התנהגות בשנת 2004. כאישה, לעצור את המעורבות המקומית שלי ולעבור לבדי למדינה זרה לכמה שנים הייתה החלטה אמיצה מאוד. מבנות זמני וגילי, אני הבוגרת הראשונה של תוכנית הלימודים במכללה האקדמית בוינגייט שיצאה ללימודי תואר שלישי בתחום זה ושובה לתרום מן הידע והמחקר כאן בישראל. לאחר מספר שנות ניסיון כחוקרת בארצות הברית, שבתי לישראל והשתלבותי בתוך האקדמיה ושם מרבית עיסוקי כיום. היותי מבין הנשים הבודדות בארץ שמקיימות מחקרים התנהגותיים, הינה עובדה ששכנעצמה מסמנת ייחודיות, אך גם בדידות מקצועית ומורכבות. אני חוקרת בתחומים מיומנויות חברתיות ושליטה עצמית של ילדים המאופיינים עם בעיות התנהגות קשות ואף מקפידה לשמור על עבודה קלינית עם הילדים.

אני גאה במיוחד בנוגע ליזומה טרייה שהפכה אותי לאישה הראשונה בישראל שהקימה תוכנית לימודים מלאה להכשרת מנתחי התנהגות באקדמיה. זו זכות גדולה להכשיר אנשי מקצוע בהשכלה גבוהה ולקדם ולהשפיע על תחום ניתוח התנהגות באופן ישיר. לכבוד שהוא שתוכנית הכשרה זו שהקמתי זכתה בהכרה בינלאומית של הלשכה להסמכת מנתחי התנהגות. הענף נשלט והובל בעבר ועד היום על ידי גברים מומחים וברי-סמכא. אני תקווה כי שנת 2016 תהיה נקודת מפנה מצוינת שתעודד את שילובן של נשים בתפקידים מובילים אקדמיים בניתוח התנהגות במכללות ובאוניברסיטאות בישראל.

גילי, מה החזון שלך להמשך התפתחותך ולהמשך התפתחותה של קהיליית ניתוח התנהגות שלנו?

החזון האישי שלי שזור היטב בחזון שלי עבור הקהילייה המקצועית בישראל. החזון הוא ביסוס המקצוע כמקצוע נפרד, מכובד ומוכר לאנשי חינוך ולמטפלים כאחד. אני פועלת רבות במסגרת הארגון הישראלי למנתחי התנהגות מוסמכים לעשייה פוליטית ובירוקרטיה לטובת מימוש החזון. החזון האישי שלי מתאפיין ברצון עז להמשיך ולסייע למשפחות וילדים עם צרכים מיוחדים לקדם את מימוש הפוטנציאל האישי שלהם, ולקדם את המקצוע ואת העוסקים בו עד שקולם של מנתחי התנהגות ישמע, יוכר וישפיע ככל הקולות האחרים.

שירי, לסיכום מפגש העמיתות שלנו, מה לדעתך סקינר היה אומר על ייחודיות? סקינר דן בנושא של מקוריות. במדע והתנהגות אנוש (1953), עמ' 255) הוא הסביר מקוריות על ידי כך שטען כי אישה (לשון נקבה הוסף) היא כיום בשליטה הרבה יותר טובה על העולם מאשר היו אבותיה ואמותיה הקדמונים. יש שיקראו לתהליכי גילוי והמצאה- מקוריות. אולם ניתן לתאר זאת בצורה לא פחות טובה על ידי כך שנאמר שהסביבה היא כעת בשליטה טובה יותר על האישה. תלוייות חזיון חדשות מעצבות צורות חדשות של התנהגות וזה נכון גם אלי ואליך. משמעות הטיעון הוא כי הסביבות שלנו הפעילו שליטה מסוימת עלינו, והובילו אותנו באופן מדורג, לעיתים על ידי ניסוי וטעייה, לפתח שיטות (כלומר, התנהגויות) חדשות להפעלת שליטה-נגד על הסביבה. כך חווינו שתינו, כל אחת בדרכה, אי-נוחות מקצועית מחד, ושאירות מקצועית מאידך, שגרמו לנו למצוא דרכים להביא בשורה לקהילייה ולפעול לשינוי מה שדורש שינוי.



graduate of the training program in Zinman College that had left for a doctorate degree in this area and had later returned to Israel, to carry on with my research and to contribute from my knowledge. Upon my return, I joined the academe in Israel, and my primary involvement is in this arena. Being among the few females in Israel who conduct applied behavioral research, this role indicates uniqueness but also involves professional loneliness and complexity. I do research on social skills and self-control of children with severe behavior problems, and I also insist on maintaining clinical interactions with the children.

I am especially proud about a recently-fulfilled initiative that made me the first woman in Israel to establish a fully-applied behavior analysis training program in academia. It is a great privilege to train professionals in higher education and to directly promote and impact the field of behavior analysis. I am honored this training program received international acknowledgment and approval of the Behavior Analysis Certification Board. The field has been dominated and led by expert male authorities and still is. This year, 2016, is a wonderful turning point that will hopefully encourage the integration of females in leading academic behavior analytic roles in colleges and universities in Israel.

Gili, what is your vision for your own continued growth and for the evolution of our behavior analytic community?

My personal vision is closely entwined with my vision for the professional community. The vision is establish-

ment of behavior analysis as an independent and recognized profession respected by educators, therapists, and laymen alike. In pursuit of the vision, I engage in vast political and bureaucratic activity as part of my service in the Israeli Certified Behavior Analysts organization. My own personal vision is to assist families and children with special needs to advance the fulfilling of their own potential and to promote the profession and those who practice it until the voice of behavior analysts is heard, recognized, and equally influential.

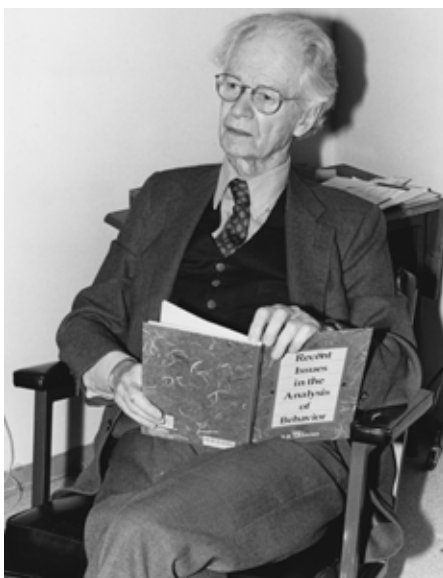
Shiri, to conclude our collegial meeting, what do you think Skinner would have said about our uniqueness?

Skinner talked about originality. In *Science and Human Behavior*, he explained originality by arguing that a woman today is in much better control of the world than were her ancestors. Some would call the process of innovation and discovery originality. Yet, it could be described just as well by saying that the environment is now in better control of woman. New reinforcing contingencies shape novel forms of behavior. It applies to us as well. It suggests that our environments had exerted control over us to a degree and had led us gradually, sometimes by trial and error, to develop new methods (behaviors) to exert control over our environments. That is how we both experienced, each one in our own unique way, professional inconvenience along with professional aspirations that made us find novel ways to bring a message to the community and to act to change what requires changing. 🦋

Skinner's Quote of the Day



brevis



B. F. Skinner

In January 2016, the B. F. Skinner Foundation launched a new project — *Skinner's Quote of the Day*. Dr. Per Holth, Professor of Behavior Analysis at Oslo and Akershus University College in Norway, selected the set of quotes from *Science and Human Behavior*. These quotes are published throughout 2016 every workday (Monday through Friday) on the Foundation's website: <http://www.bf Skinner.org/category/quotes/>. We duplicate the daily quote at this Facebook public forum: <http://on.fb.me/1olUF6N>. RSS feed for "Skinner's Quote of the Day" is available here: <http://www.bf Skinner.org/category/quotes/feed/>.

Enjoy the quotes, and feel free to share and discuss them on our website or Facebook! 🦋

"No matter what our philosophy of behavior may be, we are not likely to deny that the world about us is important. We may disagree as to the nature or extent of the control which it holds over us, but some control is obvious. Behavior must be appropriate to the occasion . . . Many theories of human behavior, nevertheless, neglect or ignore the action of the environment."

(**Science and Human Behavior**, Chapter 8, **The Controlling Environment**, p. 129)

Kim Mordaunt and Dawn Nagata

Toronto, ON Canada



Interview by By Geneviève Roy-Wsiaki, PhD



Kim Mordaunt has been a federal civil servant for 27 years and a dog trainer for 15 years. She is also a member of the Board of Directors of Swansea Dog Obedience Club. Kim is passionate about the science of behavior, particularly with canines, and applies operant and classical conditioning techniques in her dog training. Kim has also had the opportunity to work with other animals, such as chickens. Her goal is to learn as much as she can about behavior in canine and other species and help people with their basic pet problems, using humane and scientifically-proven methods.

In the photo, Kim is with her two Australian Cattle Dogs. The red boy is Dalton (seven), and the blue girl is Phoenix (13). Kim re-homed Dalton from a breeder three years ago; he's learned a lot about living in a house since then. A really fun dog! Phoenix was their attempt at fostering a rescue puppy 13 years ago, but she never left! Phoenix just got this "chariot," and it helps her get out more and put a few extra miles on instead of walking around the block.



Dawn Nagata, MBA CTC KPA-CTP CPDT left a successful marketing career after she was accepted into the San Francisco SPCA's Academy for Dog Trainers, founded by Jean Donaldson and generally regarded by most to be the Harvard of dog trainers. Dawn is also certified by The Karen Pryor Academy (KPA-CPT), is a Certified Pet Dog Trainer (CPDT), and certified TAGteach instructor (Primary). Dawn's business, *The Inspired Dog* (www.inspireddog.ca), was started in 2007 and offers one-on-one training and behavior counseling. Dawn also teaches group classes as a guest trainer at numerous facilities in Canada and the U.S.

Dawn lives in Ontario, Canada and has a standard poodle, Torin, and three miniature schnauzers, Emma, Rumour, and Gabby. Her dogs have earned titles in obedience, rally, agility, and conformation.

As a dog trainer, what is your personal history or your organization's history with behaviorism?

K.M.: It started very close to home. We had a dog with behavior problems: we went to puppy classes, but that wasn't doing it. We got a lot of bad advice. The breeder steered us to one set of books that we read, but that didn't work for this dog at all. It wasn't science-based positive reinforcement training. With the help of other people, I started learning the scientific approaches to deal with his behavior problems and luckily met with Dr. Pamela Reid who is a certified applied animal behaviorist. She got me interested in learning more about how to help our wonderful dog. As we started to see the behaviors change, we started to really get into it, and the rest is history. It turned me right on to behavior, training, and helping other people. I started attending seminars like the Professional Animal Behavior Associates' (PABA) seminars. The more you learn, the more you do. This dog was able to live a fairly happy life as a result of what we learned.

As a dog-training organization, the Swansea Dog Obedience Club has come a long way in updating the types of curricula that are offered. Dog training has changed significantly over the past 20 years. As a rule, we specialize in dog training, and we don't have any certified applied animal behaviorists as members although we do have a few veterinarians. We have tried to develop more training that involves positive reinforcement and other operant principles and techniques. For instance, Dawn comes to teach for our club, I'm one of her clients. It really has come a long way.

D.N.: I got into dog training because I had my first dog, and I was doing competitive obedience. I was using traditional methods, which incorporated a lot of punishment. My dog just got worse and worse, and every time we went into the ring, her score would get lower and lower. I just started trying to understand why that was happening. One of the things that I read, which was sort of a "watershed moment," was Jean Donaldson's *The Culture Clash*, and that did an awful lot to influence how I was training. I ended up quitting my job and applying to Jean Donaldson's Academy for Dog Trainers at the San Francisco SPCA, and I was the only one in my graduating class who wasn't working full-time with dogs. I decided that dog training was what I wanted to do.

I came home from San Francisco and thought that I would launch a website, I would rent a property, and I would start teaching classes. Things took off so fast that I didn't even have time to print business cards! It was almost 10 years ago that I started my company The Inspired Dog.

One of the strengths of Jean Donaldson's academy is that it is very heavy on theory. What is important for dog trainers is to understand the theory and the quadrants: positive reinforcement, negative reinforcement, positive punishment, and negative punishment. Understanding when one requires classical or operant conditioning is necessary. If trainers understand those principles, then they can solve any problem they may encounter with a dog. If you don't understand those theories, you're just guessing and repeating what worked last time. In this academy you learn, when presented with a dog, whether you should use classical or operant conditioning. The gap for a lot of dog trainers is that they don't have an understanding of that science background.

You reside in Ontario, Canada. Is behaviorism a common practice with dog training?

K.M.: Dog training is a mixed bag of training styles. On the one hand, there are the old-school types of training, and then there is the scientific approach to training. There are so many styles that fall anywhere along this continuum. Our club tries to incorporate scientifically-knowledgeable trainers. There is no real certification for dog training that would be recognized by the government although there are some organizations that do provide certifications. Karen Pryor is one such example; she was one of the early marine mammal trainers who began to translate that type of training into canine companions. There are a couple of organizations that certify animal behaviorists; both require a doctoral degree.

D.N.: In general, I don't think people are familiar with behaviorism. In the circles that I am in, people are familiar with positive reinforcement. I don't think they get Skinner or the quadrants, but they do understand positive reinforcement. I see it more and more with students and people that I train with.

Do you think that people are becoming more receptive to using science-based principles and techniques for dog training?

K.M.: Yes and no. Some people are so frustrated by their dogs that they're not willing to hear new suggestions. People love the idea of having a dog, but when it's not what they imagined and quite often it is not, things go south from there. That's where we try to help them as much as possible. We may use behavioral techniques, but we don't refer to them as such because people won't necessarily understand the science.

Are there any leaders in your field who influenced you to become familiarized with behaviorism?

K.M.: Dr. Pamela Reid, for instance, helped me learn how to help my dog, and I got hooked on behavior and the science of behavior after working with her. From there, I started attending seminars and conferences. There are a lot of these that go on in the dog world. Many of the seminars allow for continuing education credits to be applied to veterinarians and veterinary technicians, but again, they can

fall anywhere along the continuum of non-science to science-based training.

D.N.: Jean Donaldson, of course, and Susan Garrett, someone else who has come a long way in bringing positive reinforcement to agility training. Carolyn Clark, who was a facilitator for the Karen Pryor Academy, had the first clicker-training school in Canada, and she also did some videos in the early 1980s with Karen Pryor. She's also a real leader in the field. The great thing about science-based learning is that there are tons of data available now that supports what we're saying.

Why did the field appeal to you? What are your reasons for embracing Skinner's behavioral science?

K.M.: We wanted desperately to help the dog that we "screwed up." That transformation that you can see, it's just amazing how that works. It's fascinating to watch it all happen.

D.N.: For me, it all started with the work that I did at the dog trainer academy because that's all about understanding the science. First of all, it's irrefutable; there is too much support for it, and the results are quite significant. I have a dog that started with traditional training methods, and when we moved over to positive reinforcement, there was a rapid and significant change in the dog's behaviour. Now, I strictly use positive reinforcement, and they're just different dogs. That's why I really embrace Skinner's principles.

Do you apply Skinner's behavioral principles in just one environment, or are you able to apply the science across many environments?

K.M.: I apply the principles of operant conditioning to my training - ABC!

I have applied some of the principles during chicken clicker-training seminars where you can train chickens to learn to peck targets, peck a different color, move around a little cone; I've attended a couple but only for a day or two, so I am very novice with the concept of training another species. I would love to dabble in other species but haven't had an opportunity yet.

Also, with the work that I do as a health and safety officer, we really try to facilitate compliance of health and safety laws. I find these principles really help people think of their environment and learn from their environment. This helps to build that compliance.

D.N.: I pride myself sometimes because when somebody does something that just makes me scratch my head, the first thing I think of is "what is reinforcing that behavior in a person?" It's consistent in all parts of my life. For example, when I have a client who is resistant or difficult during an initial call, I try to incorporate some positive reinforcement for them even in my day-to-day, especially with people I'm struggling to understand.

How did you manage the dogs and their behavior prior to utilizing the principles?

K.M.: That's the scary part about television and books... how do you know what is right when you are a family pet owner? There is so much conflicting information. Our first breeder recommended books, and that information turned out to be so wrong for this dog. It involved a lot of punishment, such as ignoring your dog, which is pretty

punishing for a social animal. We tried this stuff; it made the relationship with our dog suffer, and the behaviors got worse. We enlisted the help of more experienced trainers and even they pointed us to Pam Reid because our problems were bigger than what they could accommodate. Thank goodness they had the ability to say “we don’t think we can help you further, but here’s the name of someone who can.”

D.N.: With my own dogs before training, I used to use more traditional methods like leash pops or a tap on the nose when my dog didn’t follow a command such as “down.” One of the reasons I explored positive reinforcement was that my dog just got worse and worse, and one of the things she always missed was the “down.” When I came back from Jean Donaldson’s academy, I started training her with positive reinforcement; we re-trained right from the start the drop-on-recall chain, and the signal and verbal cue. Now, it’s one of her favorite things to do. When you know better, you do better!

Once you started applying behavioral principles, did you see a change in the dog’s behavior?

K.M.: Most definitely! It was amazing. We started enjoying and loving this dog more and more as we learned to understand him better. We even noticed a physical change, the brighter eyes, like “I know what I’m doing now!” Once dogs learn how to learn, they go crazy to do it. They will do anything to get the reward.

D.N.: What I saw almost immediately was more interest in work, so I didn’t get sniffing or all that kind of avoidance behavior. I lost all of that. My yardstick measure of success was going into a trial, getting evaluated by a judge, and getting a score. So, my last score was a 171. The first time I went back after the academy, she got a 194. In the world of dog obedience, that’s an enormous jump. That’s a significant difference.

How has behavior analysis changed you, your organization, and/or colleagues?

K.M.: We sometimes get students who have not encountered success with other training styles, and we do our best to help them. Once you’ve gone beyond the critical periods of development in dogs, it becomes a serious commitment for an owner to try to change serious behavior problems. It’s difficult enough trying to get people to understand how to teach a dog to walk on a loose leash. All you have to do is turn on the TV to see what people sometimes pass off as “behavior modification.” This industry does have a grass-roots piece to it in that it’s very word of mouth. People see your dog listening, they want to know where you learned to do that, but they may not fully understand the science behind the techniques that we teach.

For me personally, I have set it as a retirement goal to get into more dog training and to focus on behavior.

D.N.: I think behavior analysis provides a little more of a clearer path that we can follow. For instance, if somebody wants to fix house training, I’m able to determine

the terminal behavior, which is that I want the dog to go to the bathroom outside. That is the same terminal behavior as other trainers. But, where other trainers might say “well let’s try letting him pee on a newspaper and then slowly moving the newspaper to the door” or “let’s try removing the water bowl at 6pm,” I know the terminal behavior, and we’re going to start reinforcing peeing outside right away. conditioning.

Have you also adopted other approaches/methods that you apply in your work?

K.M.: I have learned from every single person I have seen or worked with even if I learned that it’s something I don’t want to do. There is always value in hearing what someone is saying (although if it involves pain, I’m not really into trying it.)

I also use other techniques, such as luring (versus shaping). For example, luring is where you get the cookie in front of the dog’s nose and lift the cookie slightly so that the dog’s nose goes up and the bum goes down, and that’s how you teach to sit.

I find I also serve as a kind of mediator between the dog and the clients in helping the clients reach their objectives while encouraging the use of appropriate techniques for dog training.

How do these other approaches compare to Skinner’s principles?

K.M.: I think Skinner was a true scientist whereas I am not. He could put rats in a box and study them in order to learn about behavior; I don’t think I could. I have to be content with learning from those that have done it all.

In the end, with most of these methods or techniques, there’s a cue, there’s a behavior, and there’s a consequence – ABC. It’s behavioral in nature.

Finally, where do you see yourself and/or your organization in five to 10 years from now?

K.M.: I would like to see more operant scientific principles being utilized by all trainers; it saddens me to see people hurting their dogs (and children) because they lack education about better ways to do it.

Swansea Dog Obedience Club is a non-profit organization and is run solely by volunteers. It’s getting harder and harder to get volunteers since life is so busy for so many people these days. There are a lot of competing interests. I’d love to see our organization be thought of as the best quality dog training in Toronto, and I believe our reputation continues to grow although we are competing with big box stores and for-profit organizations for the family pet owner who wants a well-mannered dog.

Me personally, I see myself retired and helping people with home training and more behavior issues.

D.N.: What I also hope to see in dog training is more science-based learning. In other words, people using science as the first step in their methodology when training their dog. It’s less about me and more about the profession.



Monalisa Leão, PhD Candidate

Federal University of Pará
Pará, Brazil



our team

In 2015, we started the new column, *Correspondent's Profile*. Today we put the spotlight on Monalisa Leão, *Operant's* Associate editor for the Americas and our correspondent in Brazil. We asked Monalisa to introduce herself and to answer a couple of questions from our Editors.

My name is Monalisa Leão. Currently, I am an associate editor of *Operants*. It has been a pleasure to work with the B. F. Skinner Foundation. It has been a learning experience for me.

I am a doctoral student at the Federal University of Pará under the supervision of Professor Marcus Bentes de Carvalho Neto. My doctoral studies emphasize the explanatory mode of selection by consequences proposed by Skinner, and my main objective is the investigation of the process of this explanatory principle through Skinner's published and unpublished work.

I'm from a small city in the state of Minas Gerais. I left my parents' house to study when I was 16 years old. I finished high school in the state of São Paulo. Then, I studied psychology at the Federal University of Mato Grosso do Sul in Paranaíba. During this period, I met people who exercised key roles for me to enter an academic career. Unfortunately, I didn't have the opportunity to enjoy a laboratory for experimental studies, since the campus was not fully constructed. Thus, with the initiative of Professor Carlos Eduardo Lopes and his wife Carolina Laurenti, both behavior analysts, we set up study groups and some conceptual projects. The study group yielded fervent discussions on the philosophy of behavior analysis and radical behaviorism. My interest in Skinner's science was established by these discussions. My teachers motivated me further to follow an academic career.

Later, I moved to the state of Paraná where I completed my master's degree in behavior analysis at the State University of Londrina under the supervision of Professor Veronica Bender Haydu. In my master's dissertation, I had the opportunity to delve into a subject that had become the main focus of my discussions: the process of variation. According to Skinner, variation is one of the key processes responsible for the evolution and explanation of behavior. Variation is so little discussed in the area compared to the selection process. Plus, there are rumors that this process does not correspond to the nature of behavioral phenomenon, rather it is the product of mere methodological limitations. So then, I asked: What would be the validity of the explanatory mode proposed by Skinner if variation would



Meu nome é Monalisa Leão. Atualmente atuo como Editora Associada do Boletim *Operants*. Tem sido um prazer enorme contribuir com a Fundação B. F. Skinner, e todas as atividades relacionadas a essa parceria tem me ajudado a praticar a língua inglesa. Tem sido um aprendizado para mim!

Além disso, sou aluna de doutorado da Universidade Federal do Pará, sob orientação do professor Marcus Bentes de Carvalho Neto. A minha tese tem como ênfase o modo explicativo de seleção por consequências proposto por Skinner e como principal objetivo investigar o processo de construção desse princípio explicativo por meio das obras skinnerianas publicadas e não publicadas.

Eu sou de uma cidade do interior do estado de Minas Gerais, mas saí da casa dos meus pais ainda muito nova para estudar, com 16 anos de idade. Terminei o Ensino Médio no interior do estado de São Paulo e depois cursei Psicologia na Universidade Federal do Mato Grosso do Sul, na cidade de Paranaíba. Nesse período, conheci pessoas que exerceram papéis fundamentais para que eu ingressasse no meio acadêmico. Infelizmente, por ser um campus que na época estava iniciando seu processo de construção, eu não tive a possibilidade de usufruir de um laboratório para estudos experimentais. Sendo assim, com a iniciativa do Professor Carlos Eduardo Lopes e de sua esposa Carolina Laurenti, ambos analistas do comportamento, iniciamos grupos de estudos e alguns projetos de cunho conceitual, os quais renderam discussões fervorosas sobre a filosofia da Análise do Comportamento, o Behaviorismo Radical. Encantada com essas discussões e motivada por esses professores, surgiu então o meu interesse pela ciência skinneriana e a vontade de seguir carreira acadêmica.

Posteriormente, me mudei para o estado do Paraná, onde fiz o mestrado em Análise do Comportamento na Universidade Estadual de Londrina, sob orientação da Professora Verônica Bender Haydu. Na minha dissertação tive a oportunidade de aprofundar em um tema que já há algum tempo tinha se tornado o principal foco das minhas discussões: o processo de variação. Preocupava-me o fato de que um dos processos-chaves que, segundo Skinner, era responsável pela evolução e explicação do comportamento, fosse tão pouco discutido na

one day overcome scientific advancement? Guided by this question and by making parallels with Darwinism, I defended the idea that the selection process does not have priority over the variation process in the mode of selection by consequences. This explanatory principle provides the essential character for the relation between variation and selection in explaining behavioral phenomenon. After completing my master's in 2012, I taught Organizational Psychology and Health in the state of São Paulo. After a few months, I moved to the state of Pará to begin my doctoral studies.

During my academic career, I met many professionals and visited different universities and indescribable places of Brazil. Perhaps my greatest challenge has been the distance from my family; instead of living with them, I have lived with people from different cultures and diverse places. The latter has been not only the largest but also my most gratifying challenge.

Why behavior analysis?

At the beginning of my studies, the opportunity arose for me to participate in my first study group. We concentrated on Skinner's, *About Behaviorism*. My teacher, Carlos Eduardo Lopes, Ph.D., led the group. His main interests are conceptual issues involving radical behaviorism. Therefore, the group became the context for extremely productive discussions that intrigued me. This opportunity to develop a critical attitude by reading Skinner's work with respect to many traditional ideas within psychology, such as the notion of free will, mental causal events, conceptual nervous system, and so on, was highly-reinforcing. In addition, Skinner's commitment to an explanation of the scientific nature of behavior,

making it an object of study in its own right, made his science stand out to me among so many other theoretical approaches studied in psych courses. I became very interested in Skinnerian science as Professor Carlos Eduardo Lopes and Carolina Laurenti presented conceptual inconsistencies related to the various existing interpretations of such science. Therefore, I can list two main reasons that made me choose this approach. The first concerns the very critical stance adopted by Skinner in his writings. My teachers guided my learning to develop and to take a critical stance regarding the various issues that permeate behavior analysis. The second reason, perhaps the most common among professionals in this area, is the effectiveness of the science in behavior modification along with the possibility of solving social problems.

What is your favorite book or article by Skinner? Do you have a Skinner quote you want to share

área com relação ao processo de seleção. E mais, havia rumores de que tal processo não correspondia à natureza do fenômeno comportamental, mas era produto de meras limitações metodológicas. E eu então me questionava qual seria a validade do modo explicativo proposto por Skinner, caso a variação fosse um dia ultrapassada com o avanço científico. Guiada por essas e outras questões e fazendo paralelos com o Darwinismo, eu defendi a ideia de que o processo de seleção não tem prioridade sobre o processo de variação no modo de seleção por consequências, pois tal modo explicativo oferece caráter primordial à relação entre variação e seleção na explicação do fenômeno comportamental. Depois de concluir o meu mestrado em 2012, ministrei algumas disciplinas no interior do estado de São Paulo, de Psicologia Organizacional e da Saúde e, logo após alguns meses, me mudei para o estado do Pará para ingressar meus estudos no doutorado.

No decorrer dessa minha trajetória acadêmica, conheci muitos profissionais, universidades e lugares do Brasil indescritíveis. Talvez os maiores desafios pessoais de percorrer esse caminho sejam, até hoje, a distância da minha família e a convivência com pessoas de diversas culturas e lugares tão distintos. Esse último tem sido não só o maior, mas também o meu melhor desafio.

Porque Análise do Comportamento?

No início da minha universidade surgiu a oportunidade de eu participar do meu primeiro grupo de estudos, o qual era sobre o livro *About Behaviorism*, do Skinner. Como o meu professor que conduzia o grupo, Carlos Eduardo Lopes, era doutor em Filosofia e tinha como principal tema de interesse questões conceituais que envolviam o Behaviorismo Radical, o grupo se tornou contexto para discussões extremamente produtivas e intrigantes para mim. Essa oportunidade de desenvolver uma postura crítica, através da leitura da obra skinneriana, com relação a muitas ideias tradicionais dentro da própria Psicologia, como noção de livre-arbítrio, eventos causais ditos



Monalisa Leão (right) at the B. F. Skinner Foundation's offices with (left to right) Dr. Ernest A. Vargas, Dr. Julie S. Vargas, and Bruna Colombo dos Santos.

mentais, sistema nervoso conceitual, e assim por diante, foi altamente reforçadora. Além disso, o comprometimento skinneriano em propor um tipo de explicação de cunho científico para o comportamento, tornando este um objeto de estudo em seu próprio direito, fez com que a sua ciência se destacasse para mim no meio de tantas outras abordagens teóricas estudadas no curso de Psicologia. À medida que o Professor Carlos Eduardo Lopes e a Carolina Laurenti discutiam comigo algumas inconsistências a nível conceitual relacionadas às diversas interpretações existentes da ciência skinneriana, eu ficava cada vez mais interessada por tal ciência. Portanto, acredito que posso elencar duas principais razões que me fizeram opinar por essa abordagem. A primeira diz respeito à própria postura crítica adotada por Skinner em seus escritos, que, com a ajuda desses meus professores, me permitiu desenvolver e assumir uma postura crítica em relação às diversas questões que perpassam a própria Análise do Comportamento; e a segunda razão, talvez a mais comum entre os profissionais dessa área, diz

with *Operants* readers?

My favorite text by Skinner without a doubt is related to my main topic of interest, the article titled “Selection by Consequences.” This is because I believe that this is the article where Skinner describes a more systematic and consistent way that “selection by consequences” can be a general explanatory mode of behavior, explicitly describing the main features of his science.

I will mention a quote from another text, “Creating the Creative Artist,” in which Skinner emphasizes the recognition of a positive status of variation. Further, he notes the participation of chance at the origin of this process may be promising for the behavior analyst: “But, if we willing to admit that chance does make a contribution, we can take steps to improve the chances.”

I share this quote because I believe that further studies in variation will move the discussion forward in addressing many social-level issues society is presented with. In regards to education, the discussion on variation becomes essential when considering inclusive education, for example. It is worth noting that throughout the history of science, negative treatment of variability left strong traces in our society. This may be implied in an educational system, which is prepared to handle only certain behavioral patterns. Schools do not have personnel with even minimal skills needed to deal with a student who features ‘deviations’ from such patterns. At least in my country, educational policies have been developed so that students with developmental disorders are included in regular educational institutions. However, the idea of atypical development is still linked to the notion of inferiority, even when such a child has, for example, high IQ scores. In other words, behavioral variability is still being treated as a problem at the social level. In this cultural context, inclusive education will only be effective when schools commit to a view that accepts every variation in behavior. I think that Skinner’s work supports this conclusion.

Why, in your opinion, is Skinner relevant? How developed is the Skinnerian field in your coun-

respeito à eficácia dessa ciência na modificação do comportamento, atrelado à possibilidade de resolução de problemas sociais.

Qual seu livro favorito ou artigo de Skinner? Você tem uma citação de Skinner que queira compartilhar com os leitores do *Operants*?

Relacionado ao meu principal tema de interesse, sem dúvida o meu texto favorito de Skinner é o artigo intitulado “*Selection by Consequences*”. Isso porque acredito que se trata do artigo onde Skinner descreve de forma mais sistemática e consistente *seleção por consequências* como o modo explicativo geral do comportamento, tornando explícitas as principais características de sua ciência. Mas, vou fazer menção a uma citação de outro texto, “*Creating the Creative Artist*”, no qual Skinner enfatiza que a atribuição de um estatuto positivo à variação e o reconhecimento da participação do acaso na origem desse processo podem ser promissores para o analista do comportamento: “mas se estivermos dispostos a admitir que o acaso faz uma contribuição, podemos dar passos para aprimorar as casualidades”.

Compartilho com vocês essa citação porque acredito que mais estudos sobre variação, não somente na psicologia como também em outras ciências, podem levar a discussão adiante na resolução de muitos problemas presentes atualmente a nível social. Com relação a educação, a discussão sobre variação se torna essencial quando se considera, por exemplo, o tema educação inclusiva. É válido notar que ao longo da história da ciência, o tratamento negativo destinado à variabilidade deixou fortes resquícios na nossa sociedade. Isso está implícito, por exemplo, em um sistema educacional preparado para lidar com padrões comportamentais sem o mínimo de habilidades necessárias para lidar com um estudante, por exemplo, que apresenta ‘desvios’ desse padrão. No mínimo em meu país, políticas educacionais vêm sendo desenvolvidas de modo que estudantes com algum tipo de desen-

volvimento atípico sejam incluídas nas instituições educacionais regulares. No entanto, a ideia de desenvolvimento atípico ainda está ligada com a noção de inferioridade, mesmo quando tal criança tem, por exemplo, altos índices de QI. Em outras palavras, a variabilidade comportamental ainda é tratada como um problema, agora muito mais a nível social. Dado esse contexto cultural no qual vivemos, talvez educação inclusiva somente será efetiva quando escolas se comprometerem em promover uma reflexão sobre uma concepção de homem que explicita e reconheça sua natureza variável e mutável. O mais importante, na minha visão, o trabalho de Skinner sustenta essa reflexão.



Monalisa Leão is interviewed for the Operants podcast in our Harvard Square studio

try?

Skinner is relevant because he proposed a science that gives us the tools to effectively deal with solving social problems. He developed a critical approach with regards to many traditional explanatory modes of behavior. The range of possible research lines based upon Skinnerian science, ranging from conceptual studies to the applied area, shows the relevance of such science.

Currently in Brazil, there are programs focused on the study of behavior analysis. Most programs are in psychology at the undergraduate level. Various graduate programs focus on conducting research in several areas of behaviorism. At my university, there are several lines of research in the post-graduate program in Theory and Research of Behavior, such as: cultural selection and conceptual dimensions of behavior analysis, basic processes of behavioral change, aversive control, creative behavior, historical, philosophical and conceptual issues in behavior analysis, and applied behavior analysis in relation to autism. We also host one of the largest meetings held by the Brazilian Association of Psychology and Behavioral Medicine (ABPMC).

ABPMC holds an annual conference with about 1,500 participants. In addition, we have several reputable journals in the area. Therefore, I believe that the area continues to expand in Brazil.

What is your favorite article/interview you did for *Operants*? Why that one?

All were in some way special to me. I can highlight the interview I did with Professor Carolina Laurenti. This interview covers two important topics such as the importance of understanding the philosophical assumptions of psychological theories and an interpretation of radical behaviorism as a philosophy of post-modern science. Both topics, from my point of view, are key issues of behavior analysis. This interview instigates a good philosophical discussion of Skinner's science.

When you do not study or write for *Operants*, what are your favorite activities/hobbies?

I try to devote myself to my PhD thesis and take time to go out with friends or with my boyfriend. Whenever possible, I also travel to visit my family and enjoy local food in my parents' house. 🌊

Porque, em sua opinião, Skinner é relevante? Quão desenvolvida é a ciência skinneriana em seu país?

No Brasil, nós temos atualmente algumas disciplinas voltadas para o estudo da Análise do Comportamento sendo ministradas na maioria dos cursos de Psicologia do país, e diversos programas de pesquisas cujo foco principal tem sido desenvolver pesquisas em diversas áreas dessa ciência. Em minha atual universidade, por exemplo, no programa de Teoria e Pesquisa do Comportamento, temos diversas linhas de pesquisas, dentre elas: seleção cultural e dimensões conceituais da Análise do Comportamento; processos básicos de mudança comportamental; controle aversivo; comportamento criativo; questões históricas, filosóficas e conceituais em Análise do Comportamento e; análise comportamental aplicada ao autismo. Nós também temos um dos maiores encontros mundiais realizado pela Associação Brasileira de Psicologia e Medicina comportamental (ABPMC), que reúne anualmente cerca de 1500 participantes. Além disso, contamos com diversos periódicos na área bem conceituados. Portanto, acredito que a área vem se desenvolvendo cada vez mais no Brasil. Respondendo a primeira questão, do meu ponto de vista, Skinner é relevante porque propôs uma ciência que nos dá ferramentas para lidar efetivamente com resolução

de problemas sociais, assim como para desenvolver uma visão crítica com relação a muitos modos explicativos tradicionais do comportamento. O próprio leque de linhas de pesquisa possíveis de se conduzir tendo como fundamento a ciência skinneriana, que vão desde estudos conceituais à área aplicada, mostra a relevância de tal ciência.

Qual é o artigo/intervista favorito

que você fez para *Operants*? Porquê?

Até hoje foram poucas as entrevistas que já fiz para *Operants*, mas todas foram de certo modo especiais para mim. Posso destacar a entrevista que fiz com a Professora Carolina Laurenti, que está prevista para sair na próxima edição do boletim, porque ela abrange temas, tais como a importância de se conhecer os pressupostos filosóficos das teorias psicológicas e uma interpretação do Comportamentalismo Radical como filosofia da ciência pós-moderna, os quais do meu ponto de vista são temas chaves para se pensar no desenvolvimento da Análise do Comportamento. Essa entrevista traz muitas questões que instigarão uma boa discussão filosófica sobre a ciência skinneriana.

Quando você não está no trabalho ou escrevendo para *Operants*, quais são suas atividades ou hobbies preferidos?

Eu me dedico à minha tese de doutorado e tento separar alguns dias para sair com amigos ou com o meu namorado. Sempre que possível, também viajo para visitar a minha família e matar a saudade da comida mineira de casa. 🌊



Mountains in Monalisa's home state, Minas Gerais.

Monika Suchowierska, PhD, BCBA-D

University of Social Sciences and Humanities (SWPS)
and Fundacja Krok po Kroku
Warsaw, Poland



Interview by Paul W. Stephany, BCBA



Tell us about your experiences of growing up in Warsaw, Poland during the Communist era.

Poland was occupied by foreign powers from 1939 to 1989, first the Nazis and then the Soviets. I grew up in Warsaw during the last 17 years of the communist era. Most Poles had a difficult life during that time. The government issued monthly rations for practically everything you needed to buy including sugar, meat, butter, flour, rice, grains, chocolate, soap, gasoline, alcohol, cigarettes and, believe it or not, shoes! In order to buy toilet paper a person had to bring enough old newspaper to the store! On a more serious note, the government controlled what books we could read as well as all radio and television programming. These were the practicalities of life, I realized once I started studying in the United States that there were also tremendous limitations on our access to knowledge. I had fewer opportunities to learn and explore areas of interest at University of Warsaw, which was considered the best university in Poland, than at Florida Atlantic University, a Tier 2 college in the US.

How did you become interested in Applied Behavior Analysis?

I believe this is a very interesting story that shows how ABA can impact the lives of everyday people. I left Poland in 1994 to study in the US. I was an international student, majoring in foreign languages, determined to eventually work for the United Nations as an interpreter. As an undergrad at Florida Atlantic University, I took a part-time job as a nanny. The very nice family that I worked for had a little girl and a baby boy. I was asked to mainly take care of the baby. He was about a year and a half old. I realized very quickly that this was a difficult child to care for. He did not speak, did not want to play, and was usually busy manipulating and lining up his Lion King figurines. God forbid if one of them was lost! We all had to immediately look for it, or he became very upset. Every day, I had to go to a Japanese restaurant because he hardly ate any food except Japanese rice noodles. Having no background in psychology or a related discipline, taking care of this little boy was a challenge for me. On the other hand, he was a sweet, affectionate baby and I could not envision quitting my job.

Because the difficulties had become quite obvious, the boy's parents started the process of evaluating his development. Within several months, he was diagnosed with autism and a few weeks afterwards, he began early intensive home-based intervention. A team of therapists came to the house every day for several hours to work with the boy. The lead therapist was a very good clinician and quickly realized that I needed to be trained on how to effectively interact with the boy. So, my training began and in less than a month, and I, the naïve student of foreign language, noticed meaningful changes in the boy. I learned how to lower the risk of a temper tantrum, to say things so that he would follow through, help him when he did not understand my commands, and play with him. Simply said, my life became easier.

I wanted to learn about the discipline that was the foundation for such concrete and practical changes. Despite the fact that I was not trained in psychology, I was enticed by the fact that I understood what needed to be done to create change. There were no gimmicks, hypothetical entities, or going "under the surface." Instead, I looked for the observable events.



Monika Suchowierska received her PhD in developmental and child psychology from the University of Kansas, Human Development and Family Life Department, in 2003. In 2004, she joined the faculty of Psychology Department at SWPS University of Social Sciences and Humanities in Warsaw, Poland. In 2005, she founded the Center for Early Intervention "Step by Step"—the first behaviorally oriented private institution in Warsaw that provides early intensive intervention to children with autism.

From 2010 to 2013, she served as the Vice-Dean of the Psychology Department at SWPS. In 2010 she was a Fulbright Scholar at California State University Stanislaus. From 2006 to 2009, Dr. Suchowierska served as the president of the Polish Association for Behavior Analysis and currently is the vice-president of the Polish Society for Behavioral Psychology. Monika is the first Board Certified Behavior Analyst in Poland. Privately, she enjoys spending quiet time in the mountains with her husband – also a behavior analyst – where they both devote full attention to their beloved son.

And finally, the therapists collected data-creating beautiful graphs that we looked at every week at the team meeting. I was sold! In 1996, I went for my first conference, the Florida Association for Behavior Analysis. I was even more impressed by this science of behavior. This is when I made a decision to change my major from foreign languages to psychology.

What was it like to go through a rigorous doctoral program at the University of Kansas as a student from Poland?

In 1998, I was very fortunate to be accepted to the University of Kansas (KU), Human Development and Family Life Department (currently Department of Applied Behavioral Science). It was a distinct honor and privilege to be at Kansas when the “giants” of ABA were still teaching. Don Baer was my advisor until his untimely death. After that I worked with two wonderful co-advisors, Kate Saunders and Glen White. The five years that I spent at KU were very formative. I think that the most important lesson that I learned was to be an open minded, critically thinking, and tied to conceptual bases scientist-practitioner.

I learned a great deal from the weekly consultations with Don Baer who, initially, corrected sentence by sentence of my writing. He used to say that in scientific writing, I need to pay attention to every word. How correct he was! Don also taught me to “dissect” clinical problems into environmental events, functional relations and operationalizations. His analytical skills were invaluable in training me to do research and work effectively with clients.

Don Bushell showed me how very important it is to understand typical development if one works with atypically developing children. I am thankful for the two years that I worked in the preschool supervised by Don Bushell. I would not be the behavior analyst and university instructor that I am today without the teachings of Ed Morris. His classes on science of human behavior, behavior analysis and child development, history of behavior analysis, and verbal behavior gave me a solid foundation in behavior analysis and a wonderful model on how to teach. On the other hand, those classes were tough! Ed made us read thousands of pages in the course each semester. I still go back to some of his readings.

I was in my fourth year at Kansas when Don Baer passed away. I was “adopted” by Kate Saunders. I am extremely thankful to her, Dean Williams, and Joe Spradlin for showing me what rigorous, systematic, experimental research with human participants is like. I learned tremendously from our research meetings, visits to Parsons Research Center, and informal conversations. Kate’s help on my doctoral dissertation was invaluable.

Finally, I worked with my other co-advisor, Glen White, in the Research and Training Center on Independent Living (RTCIL). It was a wonderful experience, not only because of the atmosphere of collaboration and mentorship at RTCIL, but also because Glen taught me the importance of working “with” participants not “on” participants while planning, conducting, and evaluating research. In summary, I was very fortunate to receive my graduate training at KU. While the training was rigorous, it very much resembled

incidental teaching of a child. When we teach incidentally, the child is engaged in an activity that is interesting for him or her, she does not realize she is being taught, and – most importantly – the whole process is reinforcing. That’s how my graduate years were at KU.

Tell us about your current activities in the field of Applied Behavior Analysis.

Currently, my activities focus on clinical work, teaching, and disseminating knowledge about behavior analysis. I direct the clinical programs at the Step-by-Step Foundation for Children with Disabilities and Their Parents. The Foundation has obtained grants the past several years for early intensive behavioral intervention, as well as for parent training. There are two Board Certified Behavior Analysts at the Foundation and we make sure that therapy meets the highest standards of practice and ethics. Some of the graduates of the Foundation continue their education at the “Step by Step” Special Education School, where we implement behavioral principles in teaching children with autism and intellectual disabilities.

I am also an Assistant Professor at the University of Social Sciences and Humanities (SWPS). In 2006, I established the first Applied Behavior Analysis course sequence in Poland at SWPS. The course sequence is in its tenth edition this year. Today, over 400 people have obtained a thorough education in ABA at SWPS. The ABA course sequence has also been replicated on two other campuses of SWPS.

I established an ABA course sequence at the bachelor’s level that is taught in English. This program has attracted students from many countries throughout Europe and Asia. I enjoy teaching greatly, especially when I see the “sparkle” in a student’s eye when it occurs to them that ABA is what they want to learn. I have had many students who signed up for the introductory ABA course not necessarily because they knew what ABA was or because they were interested in ABA. More likely, they needed an elective or the time of the class was suitable for them. Some of those students, however, have discovered ABA and become so enticed by the discipline that they take the remaining classes in the sequence. It is even more rewarding when those students come from countries where ABA is practically nonexistent such as the Ukraine, Turkmenistan, and Georgia, return to their home country, and become active in developing ABA there. We had an example of such a result a couple of months ago when several graduates of my ABA courses organized the first conference on science in psychology, where there were several presentations and workshops on ABA in Kiev, the capital of Ukraine. We had an outpouring of questions and interest afterwards. Finally, as for dissemination of knowledge about ABA in Poland, my colleagues and I have been working on creating a common Polish vocabulary for the still relatively new discipline of ABA. The result of this work was a 2010 publication entitled “Behavior Analysis from A to Z”, which included the first English – Polish glossary of behavior analytic terms and a dictionary of some of the terms. Earlier this year we published an expanded version of this first book. This new publication is entitled “Behavior Analysis.

Vademecum.” It includes the glossary, the dictionary, but also chapters on the history of ABA, the role and credentials for behavior analysts, and guidelines for ethical practice. We believe that such publication is very important for convincing the public that ABA is a viable, scientific discipline with solid theoretical underpinnings and a foundation in experimental work, with application for many varied populations and problems.

Along with two of my colleagues, I also published in 2012 the first book in Polish that describes comprehensively the use of ABA in the therapy of children with autism. The book is entitled *Behavior Therapy for Children with Autism. Theory, Research, and Practice of Applied Behavior Analysis*. It is my understanding that this book has become the “go to” publication for individuals who provide behavioral treatment for children with autism. I am very happy about such situation because we emphasize in every chapter of the book the importance of implementing effective strategies that have been proven in sound scientific research and we caution against regarding ABA as a “bag of tricks.”

What do you see as your major accomplishments since you returned to Poland in 2003?

I think the major accomplishment is the dissemination of behavior analysis in Poland. Thanks to the course sequences, the publications and the yearly conferences, students and other interested individuals have the opportunity to learn about not only about ABA, but also about the conceptual and experimental analysis of behavior. I consider this to be of paramount importance! We need to know on what strong foundations we stand when we implement behavioral procedures in everyday clinical work. While ABA is becoming more popular we have a long road ahead of us. But I am confident that we are moving in the right direction.

Another important accomplishment is to disseminate knowledge about the profession of a behavior analyst. When I returned to Poland I was the only BCBA and such a situation remained for 8 years! There were another two BCBAs in 2011, one more in 2012, and two more in 2014. We also have one BCBA who was “adopted” from the United States and one who “transferred” to the USA. In sum, there are 7 BCBAs in Poland now. While this number may seem small I am still very happy about such development because I see that the international certification is becoming more and more important for Polish individuals interested in ABA. I am confident that within the next decade we will see the doubling, or even maybe tripling of BCBAs in Poland. Let’s check in 2026!

Further, in 2010 I was awarded a Fulbright Scholarship and taught courses in Applied Behavior Analysis at California State University, Stanislaus. While in California, I teamed up with Gary Novak, Bill Potter, and Carl Hughes to establish the Atlantis Dual Masters Program. This is a faculty and graduate student exchange program in Applied Behavior Analysis that includes the SWPS University of Social Sciences and Humanities in Warsaw, the University of Bangor in Wales and California State University, Stanislaus. Since its inception, over 45 graduate students from Poland, Great Britain and the United States

have participated in the Atlantis Program. For many of these individuals this was a life changing experience from many perspectives, one of them being that because of the behavior analytic courses they took at the participating universities they chose a career as behavior analysts after graduation. It is my understanding that the Atlantis program was the only one of its kind in the community of universities which offer BA course sequences.

Finally, I would like to mention an accomplishment that is a result of the work of many individuals. I have a pleasure to participate in this very important – in my opinion – endeavor. In 2010, the boards of Poland’s two affiliated branches of the ABAA, the Polish Association of Behavioral Therapy and the Polish Society for Behavioral Psychology, have initiated a joint program aimed at unifying the formal requirements for behavioral therapists in Poland. The aim of these actions is to consolidate and formalize the occupational trainings for behavioral therapists that are currently in place in Poland and thus define the requirements for practicing therapists in order to make behavioral therapy clearly identifiable with the highest quality of therapeutic services. Therefore, in light of that common goal, the two associations have decided to create a registry of practicing behavioral therapists in Poland to integrate and regulate the existing system of trainings and occupational education that enables applicants to obtain the title of a behavioral therapist and supervisor. At this time, over 150 individuals in Poland have been granted the title of licensed behavioral therapist and over 20 that of a licensed behavioral supervisor. A set of theoretical and practical trainings that were framed as four preparatory routes, as well as the appropriate examination criteria, have been prepared for persons applying for the granting of the occupational title of behavioral therapist and a behavioral supervisor.

What influence did the work of BF Skinner have on your training and current practice as a behavior analyst?

The greatest influence that Skinner had on my teaching and clinical practice is his work *The Technology of Teaching*. Skinner concisely outlined how the principals of reinforcement, and shaping can be effectively utilized to provide a highly reinforcing and errorless learning environment for all students, regardless of their intellectual capacity or disabilities. This is the essence of my clinical work with children. In this work, Skinner clearly explained that Applied Behavior Analysis is the science of how people learn and how we should teach. I have always thought (and taught to students) that one of the most appealing aspects of my work with children who have difficulties learning is the programing of instruction for them. There is something very enticing in analyzing the sequence of teaching so that one step ties to the previous one and that there is a very logical progression from one skill (or an element of a skill) to another! With many of our students we cannot waste a minute of their learning time, thus arranging such contingencies that maximize learning is of great importance. Here we have to do with such aspects of learning as: stimulus control, generalization, discrimination maintenance, shaping, errorless learning. In Skinner’s words, our goal is as follows: “Through a

proper understanding of contingencies of reinforcement, we should be able to make students eager and diligent and be reasonably sure that they will continue to enjoy the things we teach them for the rest of their lives.” That is the essence of teaching: careful sequencing, proper use of reinforcement, and fun!


What do you think the future will be for ABA in Poland?

ABA is a very new science in Poland. Before our independence in 1989, we had no access to the work of the American scientists. Being behind the Iron Curtain severely hampered the progress of psychology as a science. To this day, there are still many psychologists in Poland who deny the validity of ABA or are greatly misinformed about the effectiveness of ABA as a treatment for children with autism. There are very few behavioral psychologists on the faculty of the University of Warsaw and the Jagiellonian University, the two most prestigious academic institutions in Poland. We are very fortunate to have a “haven” for behavior analysts at SWPS University.

Despite many obstacles, we are making steady

progress. The establishment of the ABA course sequence at SWPS has become very popular. Because of our workshops, annual symposiums and publications, more professionals and parents of children with autism are becoming aware of the value of ABA.

I believe that parent training will be the key to success in promoting ABA in Poland. Once parents are armed with the knowledge of how useful ABA is in the treatment of children with autism, they will begin advocating for increased funding by the government and the establishment of ABA programs in the school system.

These are exciting times for us in Poland. While today there are only 7 BCBA's and a small handful of behavioral treatment programs, there are many young professionals who are working on their supervised experience hours and academic requirements in order to sit for the BCBA exam. The fact that the exam will be administered in Polish beginning in 2017 will be a great help to our profession and the treatment of children with autism and other developmental disabilities. 




Dr. Joyce C. Tu, BACB-D Is the Vice President of the B. F. Skinner Foundation



*Board of Directors Meeting, April 23-24, 2016.
Left to right: Dr. Per Holth, Dr. Julie Vargas (President,
B. F. Skinner Foundation), Dr. Ernest Vargas, Dr. Joyce
C. Tu (Vice President, B. F. Skinner Foundation), and Dr.
David Palmer.*

At the annual meeting of directors of the B. F. Skinner Foundation in Cambridge in April, the Board appointed Dr. Joyce C. Tu the Vice President. Says Dr. Tu: “It is my mission to introduce the new generation of scholars and students to Skinner’s legacy, to preserve and make Skinner’s work easily accessible to the general public, and advance the practice of behavior analysis through Skinner’s science.”

Dr. Joyce C. Tu received a Doctor of Education degree in educational psychology specializing in applied behavior analysis from West Virginia University. Dr. Tu has over fifteen years of experience providing trainings, workshops, and supervisions for professionals and parents working with individuals diagnosed with autism and other developmental disabilities. Her specialization and research interests are in the area of verbal behavior, specifically, joint control and its role in the listener’s behavior. Dr. Tu has presented a number of times to both national and international professional organizations. She had also consulted in schools for children with autism in China and Bahrain. She was an adjunct professor at California State University, Los Angeles, Ball State University, and co-instructor for Florida Institute of Technology. At this time, she is an adjunct professor at the Chicago School of Professional Psychology. Dr. Tu is the director of clinical services and co-founder for *Center for Behavioral Sciences*. She had served as Association program coordinator for the International Society for Behaviorology Conferences. She had also served as President at California Association for Behavior Analysis (CalABA) Board of Directors. Currently, she is a board member for the B. F. Skinner Foundation. Furthermore, Dr. Tu also serves on the advisory board of directors for the Association of Professional Behavior Analysts. 

In the Next Issue: Interview with Prof. Fabio Tosolin



a look
ahead

by Anna Luzi



Recently, Operants correspondent in Italy Anna Luzi interviewed Prof. Fabio Tosolin, the President of the Association for the Advancement of Radical Behavior Analysis (AARBA).

Below is an excerpt from the upcoming interview, in which Dr. Tosolin recalls how he was introduced to Skinnerian science.

I had the privilege to attend a lecture that professor Ettore Caracciolo gave on Skinner at the Psychology Institute of the Medical Faculty of Milan, in the early 70's. Professor Caracciolo presented on the "reinforcement theory" and it made the difference for me and for twenty fellow students. The professor was a great expert on a subject that was so new

but also very contested, making it all the more fascinating. Particularly, he was a real storyteller, unlike his colleagues from other theoretical orientations. He spoke standing up and changing facial expressions and posture like a consummate actor. Professor Caracciolo's pedagogy was liberating.

What was even more rare, he made the material clear and understandable to all students. The professor made schedules of reinforcement, matching law, and verbal behavior comprehensible by an absolutely extraordinary illustrative capacity.

But there was more: we were given jokes and examples as a perfect application of intermittent reinforcement, at variable ratio. The students who were attentive to the

words of the professor were positively reinforced by being able to laugh out loud at his unpredictable jokes, irony, and continuous hilarious sarcasm towards therapies and not-scientific methods used at the time. Gestalt, psychoanalysis, systemic approach, were the favorite targets and his presentation converted the students into followers of a method that really seemed capable to make a difference. If you didn't pay attention, you lost the gag. And then you were attentive, ready to seize gestures, winks and jokes on Chomsky's stupidity, on the inadequacy of the educational ideologies, on "head shrinkers", but also on sex, drugs, cinema and marketing policies. The more you listened, the more you understood the engaging science of human behavior. I think I can say that no one after professor Caracciolo has ever been able to have his students leave the classroom with the imperative exhortation to "save the world through behavior analysis."



Professor Ettore Caracciolo



Fabio Tosolin (right) and Julie S. Vargas, President of the B. F. Skinner Foundation, at the Foundation's reception during the ABAI Convention in Chicago. May, 2016.

Graduated in psychology (experimental course) from the University of Padua, Prof. Fabio Tosolin is the psychologist who introduced in Italy the methodology of Organizational Behavior Management (OBM). He is a consultant for many Italian and multinational companies, and a professor of psychology of work and of learning technologies at several universities. Dr. Tosolin is the author of numerous experimental studies and texts on performance management, performance matrix, learning technologies and performance-based training. He is the president of the Association for the Advancement of Radical Behavior Analysis (AARBA), a scientific society of behavior analysts that operates to advance the scientific method in psychology of work, in productive organizations, and civil society.



fundraiser


Teaching Machine for the New Generation



B. F. Skinner (left) and James H. Holland discussing The Analysis of Behavior.

The *Analysis of Behavior: A Program for Self-Instruction* by James G. Holland and B. F. Skinner introduced behavior analysis to thousands of students. The program produced a superior level of mastery than that obtained from textbooks. The program shaped basic behavioral concepts with small steps that built to teach increasingly complex skills. The 1961 version of the Holland and Skinner program went through several iterations: from mechanical teaching machines with printed disks, to a self-study book, and to a PC-only program that the B. F. Skinner Foundation distributed for several years through its website. For years, the Foundation has received requests for a version that would work on any type of computer and that would provide student evaluations to instructors. Today we are announcing our plans to provide a state-of-the-art interactive version of Holland and Skinner's *The Analysis of Behavior*. The program will work on all Internet-connected devices and run on all operating systems. The program will provide feedback not only to students, but to instructors when students register for courses. The original static figures will be replaced with improved graphics, video, or

animations. The new online platform will also provide detailed data on student performance to enable the Foundation to add helpful features in the future. The Foundation has been fortunate in locating two developers who will work on the code for the project. Both of them have many years of experience in computer-based instruction for civilian and military use. They also clearly understand the science underlying programmed instruction as well as the potential of good internet instruction in promoting behavior analysis world-wide.

The features required for the high level of interactivity and extensive data collection come with a price. We need your help to get the project off the ground. The potential for a truly exemplary internet "teaching machine" is so exciting that the Foundation is mounting a special appeal. Our goal is to raise a minimum of \$52,000 for the first stage of the project. All donations large and small are appreciated and any contribution will bring us closer to this goal. You can send a check to the Foundation, or donate online: bfskinner.org/holland-and-skinner-online/. Please contribute as much as you can! 



B.F. Skinner

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