

Experimental analysis of behaviour in the European French-speaking area

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ABSTRACT

The influence and development of behaviour analysis in French-speaking Europe has been different in the different countries, as can be seen when comparing developments in France and in the French-speaking parts of Belgium and Switzerland. French psychology has shown persistent reluctance towards behaviour analysis, except for a few individuals in a few institutional circles. On the other hand, Belgium has been the main centre from which behaviour analysis has propagated to the French-speaking area as a whole. Territorial specificities both in experimental analysis and in applied behaviour analysis are described and placed in context. In general, French-speaking Europe has not been especially receptive to Skinner's radical analysis of behaviour. Few of Skinner's books have been translated into French, as compared with other major Western languages. In none of the geographical areas being considered was psychology prepared to integrate radical behaviourism, in spite of its having important experimental developments in learning, perception, cognition, and other basic processes. By the time some faint echoes of Skinner's work reached France and its neighbours, cognitivism had already invaded. In spite of the lack of experimental and conceptual developments, applications mainly in behaviour therapy and in special and normal education did take place in all French-speaking countries.

INTRODUCTION

A survey of experimental analysis of behaviour (EAB) research and applications in the French-speaking European territories provides a striking example of the fact that psychology, although a scientific and therefore universal field, shows national or regional peculiarities that can be explained to some extent by its local specific history, but also by the persistence of ambiguous attitudes as to the scientific approach to human behaviour.

On the whole, French-speaking Europe has not been especially receptive to Skinner's radical behaviourism, which generated about half a century ago the so-called experimental analysis of behaviour (EAB). One piece of evidence for this is the limited number of Skinner's books that have been translated into French, as compared with other major (and sometimes minor) Western languages. The first two titles offered to French readers were *The Technology of Teaching* (1969/ 1968) and *Contingencies of Reinforcement* (1971/ 1969), both published by a Belgian publisher, the first author (Marc N. Richelle) being his scientific adviser for books in psychology. *Beyond Freedom and Dignity* (1971) was published in Paris in 1972 by a big publishing company, but with minimal publicity and few, almost unanimously negative, press reviews; one of them, written by a reputed social psychologist, captured the French intelligentsia feeling in its title "Sommes-nous des rats?" and in his self-satisfaction argument that French people fortunately escaped the influence of what appeared essentially to be stuff for Americans (meaning USA citizens). The same publisher also translated *Enjoy Old Age* (1983), curiously enough with an equal lack of publicity, though that pragmatic small book contains little behaviouristic theorizing. *About Behaviourism* (1974/1979) was published in French by a Swiss publisher in 1974 and it was not until spring 2005 that *Walden Two* (1948/2005b) and *Science and Human Behaviour* (1953/2005a) were published by a freelance publisher in Paris, after years of efforts and the goodwill of unpaid translators. This sets up the stage for the description that follows of EAB in France and its close neighbours that share the French language.

However, language is not such a unifying factor as to erase differences between France on one hand and French-speaking regions of Switzerland and Belgium on the other. The latter did not share globally the French attitude towards EAB; their respective approaches had their specific features.

EAB can be considered at various levels. One refers to the experimental methods originally developed in Skinner's laboratory, based on operant techniques. These can be put to work to a number of purposes, with little or no reference to theoretical ideas elaborated by Skinner and his followers. At another level, EAB implies such theoretical elaborations, basically a monist conception of (human) behaviour, the rejection of mentalism as explanatory fiction, a selectionist view of the shaping and emergence of

new behaviour. At a third level, EAB is essentially a field of applications, to a large extent rooted in the experimental approach characterizing the first level, and to a variable extent sharing the theoretical tenets qualifying the second level (as shown in the compromise between cognitive and behavioural approaches in cognitivo-behavioural therapies, a somewhat chimaeric, self-contradictory expression to the view of some radical behaviourists). The terms “applied behaviour analysis” (ABA) will cover hereafter applications in various contexts— education, therapy, management, etc.—related with or inspired by EAB level I or II or both.

THE CASE OF FRANCE

LEVEL 2: EAB AS A THEORETICAL POSITION

At first sight, having the legacy of its famous philosophers and scientists of the 18th century, France would appear to be appropriately prepared to welcome the behaviourist approach to psychology at the beginning of the 20th century. In some sense, it was, and some French psychologists have even claimed primacy of Piéron over Watson. In fact, the former, in his inaugural lecture at the Collège de France in 1907 (Piéron, 1908), advocated the view that the subject matter of psychology is behaviour, rather than mental life. His lecture in some way anticipated Watson’s manifesto. However his position was closer to methodological behaviourism than to radical behaviourism as Skinner would define it later in the century. As Parot (1995) showed, Piéron remained basically a dualist, as most French psychologists of his time and subsequently. The conception of psychology as the science of behaviour (*comportement*) was, at least superficially, widely accepted in introductory textbooks, but very few of those who shaped French scientific psychology in the century could be called behaviourists. Pierre Naville was the only person with in-depth knowledge of behaviourism and openly in favour of its tenets, but he was a philosopher and sociologist, not a psychologist (Freixa i Baqué, 1985; Naville, 1946).

The French reluctance towards behaviourism did not change in the second half of the century when Skinner’s influence was growing in North America and in many other countries; we have pointed in the Introduction to the lack of interest on the part of publishers in translating his books, and the negative response of critics. These completely missed some major differences in Skinner’s ideas as compared with traditional behaviourist schools of thought, namely the interest in verbal behaviour, thought, and private events. In these respects, Skinner’s views would appear closer to Pierre Janet’s influential *psychologie des conduites* (the word *conduite*—also used by Piaget—being a quasi-equivalent to *comportement*, but including indirectly observable behaviours, which

were explicitly taken into account by Skinner). To sum up, French psychology ignored the theoretical and epistemological contributions of radical behaviourism, with a few exceptions in the last quarter of the century, which will be presented hereafter. It remained, on the whole, completely closed to EAB second level. Of course, some elements of Skinner's contributions were part of traditional courses in experimental psychology, under the headings of "Learning and Conditioning." The field had its experts, such as Jean-François Le Ny—originally a specialist of Pavlovian psychology—and Christian Georges, among others; but significantly they both became prominent figures of the cognitivist movement as soon as it developed.

In the 1980s, a handful of behaviourally oriented psychologists appeared on the university stage in France. One was of Catalan origin, E. Freixa i Baqué who had been deeply influenced during his studies in Barcelona by two behaviourally oriented teachers, namely Pere Julià and Ramon Bayés. He worked for some time on his doctoral research—on a purely psychophysiological topic—in the psychiatry department headed by P. Pichot in Paris, where behaviour therapy was beginning to be part of the treatment approaches. He moved to the University of Lille, first hosted by the psychophysiology laboratory headed by Vincent Bloch, where he continued to develop his interests in radical behaviourism. The department of psychology in Lille was by no means a centre of Skinnerian studies, but it offered a context favourable to the opening of new avenues by young people. Such intellectual tolerance was unusual in those days in French psychology departments, where the cognitivist movement was clearly dominant. Lille was an exception, due to individual personalities then responsible for the development of teaching and research, such as P. Lecocq, an expert in human memory closer to cognitive psychology than to radical behaviourism, or Jacqueline Bideaud, a reputed Piagetian. One student of the latter, Jean-Claude Darcheville, working in developmental psychology, moved from the Piagetian approach to behaviourism, and engaged in experimental research using the operant paradigm on young children. By the same time, Marc Hautekette had started to teach behaviour modification and to train students in the practice of behavioural methods, pioneering what eventually led to the organization of a specialized degree for professional psychologists, who were soon recognized for their competence, especially by associations of parents of autistic children, or child victims of other behavioural problems. The small initial nucleus expanded by the training of new Phd's in the field, among whom were Vinca Rivière, Yanic Miossec, François Tonneau, Michel Sokolowski, Alain Madelein, Bruno Facon, and Samuel Delepoule. Some of these moved to other universities, in France or abroad. Freixa i Baqué himself moved to the University of Picardie in Amiens, starting, with his former student Sokolovski, a second EAB nucleus in the North of France. He is presently in charge of the first teaching facility explicitly labelled as EAB, in a department with a strong psychoanalytic influence. The new small group organized the fourth European Meeting on the Experimental Analysis of

Behaviour in Amiens in 2000 (see below in the section on Belgium).

We have described the case of Lille in some detail, because it is the first and a unique place on the French university map where EAB could develop and gain some credentials, both in basic research and theory and in applied fields of behaviour modification and therapy. Why was it unique? And why did it happen there only, rather than in some other university? To the first question, the answer is to be found in two factors: one is the dominant wave of cognitivism that has been propagated all over French psychology since the early 1960s, such that behaviourism was proclaimed a blind alley; the other is the dominance of the psychoanalytic approach in the clinical psychology part of French departments. We shall see later to what extent that factor is still crucial today, and is the source of a crisis of unexpected dimensions. To the second question, the answer is also twofold: first, for some local reasons, psychoanalysts had less weight in the Lille department, and second, as already pointed out, the human context was more favourable than elsewhere to the exploration of new alleyways— even if they be of behaviouristic orientation—by young members of the staff. This is not to say that there has not been, on French territory, any individual psychologist interested in the EAB, but in no case have such pioneers seemed to find the conditions that existed in Lille to escape isolation.

As well as Freixa i Baqué, and at about the same time, two other young psychologists with a radical behaviourist background, Fanny Muldman and Alexandre Dorna, settled down in Paris, flying from Chile after Pinochet's *coup d'état*. Dorna, a social psychologist, developed a research group in the field of political psychology. Recently, after many efforts, and together with Freixa i Baqué, he was successful in having *Walden Two* and *Science and Human Behaviour* published in Paris.

LEVEL 1: THE USE OF SKINNERIAN TECHNIQUES FOR VARIOUS LABORATORY PURPOSES

Operant conditioning techniques were put to work independently of adherence of the user to Skinner's theory of behaviour, just because they were most efficient in a variety of contexts. If we want to trace the history of that aspect of EAB, we shall have to turn to the section on French-speaking Belgium below. From the 1950s on, a number of French researchers took advantage of operant methods, mainly in psychopharmacological and psychophysiological studies with animal subjects. To name but a few: Cardo, in Bordeaux, used them in self-stimulation studies; Simon and his group at the Paris VI medical school, in behavioural pharmacology; Delacour at Institut Marey in Paris, in psychophysiological work. The techniques were also used in sophisticated research on the neurobiology of motor control in monkeys, at the CNRS Institute of neurophysiology, established in

Marseille in the mid-1960s and headed by Jacques Paillard. They also became routine in the last decades of the century in many university laboratories at medical school and sciences faculties, as well as in private companies' research centres, especially in the pharmaceutical industry, sometimes hiring behaviourally trained psychologists from abroad. Animal laboratories were few in departments of psychology, so those who used Skinnerian techniques did so on human subjects. A typical case was Viviane Pouthas, then a member of Fraisse's laboratory in Paris, who was interested in the psychology of time, an area in which the prominent French experimental psychologist had been a pioneer and had gained international recognition. She engaged in the study of very young children using operant methods. She eventually trained PhDs along the same lines, and they applied these methods expertly, without any commitment to behaviourist theory (Pouthas, 1985, 1995).

LEVEL 3: APPLIED BEHAVIOUR ANALYSIS

As can be understood from the two preceding sections, applied behaviour analysis in France, with a few exceptions such as Lille, did not derive from theoretical or experimental research inspired by radical behaviourism. It grew mainly from the concern of some psychiatric departments that the array of treatments should be widened. Rejecting the dichotomic view of psychiatric treatments, which opposed the psychoanalytic approach and the biological approach, with its high reliance on drugs, some prominent psychiatrists in charge of leading university clinics promoted an eclectic approach. In this they were open to new treatments if these were useful in improving patients' conditions. Two examples, in Paris, were Pierre Pichot at Saint Anne Hospital and Daniel Widlöcher at La Salpêtrière. The latter is an open-minded psychoanalyst, who encouraged his collaborators to engage in new practices as these were made available by various orientations in psychiatry and psychopathology. Pichot had already been pioneering by introducing psychometric techniques for evaluation of personality, normal and pathological, in the psychiatry department; he encouraged a research psychologist in his group, Mélinée Agathon, familiar with Pavlovian work, to explore the new behavioural treatments, in which Pavlovian conditioning merged with behaviour modification derived from American behaviourism. She contributed to the training of young psychiatrists by teaching the principles of behaviour therapy from the early 1970s. This seems to have been the origin of behaviour therapy in France.

A French Association of Behaviour Therapy was founded in 1972 (Agathon, 1982), which was eventually changed into an association of cognitivo-behavioural therapy (AFTCC for *Association Française de Thérapie Cognitivo-Comportementale*). This followed a general trend all around the world to reconcile two schools of thought in the field of application, which had been (and still are in many cases) opposing each other, sometimes aggressively, in academic circles. This might be one case, among others in the history of psychology,

where practitioners confronted with real-life problems wisely go beyond exacerbated conflicts of theories. Curiously enough, while France, as we have seen, was not particularly prepared to accept the behavioural approach, a number of both psychiatrists and psychologists showed interest in the newly created association, perhaps because of a general need for alternate and diversified approaches to treatment, based on a scientific analysis. People like Pichot, Widlöcher, and Zazzo were members and/or Presidents. However, the most active centres from which applied behaviour analysis was to develop were not in Paris, where it had timidly originated, but in the provinces. In Lyon, a young psychiatrist, Jean Cottraux, acquired expertise in cognitivo-behavioural practices, founded a highly specialized group, and soon became the leading figure in the field (Cottraux, 1979). He was active in propagating cognitive-behaviour therapy (CBT) in psychiatric circles, both through the AFTCC platform and by participating in professional meetings for psychiatrists and psychologists at large. One can estimate at about 1000 the number of recognized practitioners of CBT. This is a large number, considering the French context, but it is small compared with equivalent professional societies in other European countries of comparable size, such as Germany or Spain.

In spite of its progresses, the behavioural approach is far from having gained its place in the teaching and practice of clinical psychology and psychiatry. As already alluded to, psycho-analysis is still the dominant school of thought at the institutional level (although more so in psychology departments than in psychiatry, where the tough biological approach has to some extent counterbalanced Freudian influence), and the most popularized through the media.

At this point, it seems appropriate to provide the reader with a brief account of recent events that illustrate the present highly conflicted relations between cognitivo-behavioural approaches and psychoanalysis, making France a *unique case* on the international scene. The special evolution of psychoanalysis in France should be remembered. Having received Freudian theories somewhat later than other countries—including the USA—France soon developed its original brand of psycho-analysis, elaborated by Jacques Lacan. He made his reputation on claiming to restore the true meaning of Freud's writings, consequently separated from the existing society of French psycho- analysts, and built his enormous success on hermetic abstruse discourse that would give free rein to infinite games of interpretation. Looked at from outside, such success appears rather strange in a culture that defines itself by the clarity of ideas and style, inherited from Montaigne, Voltaire, Diderot, Montesquieu, and many others. Not the whole world has been receptive to Lacan's message: For reasons we leave to historians to explain, it found an echo in Argentina, and some audience in the USA post-modern

circles, affiliated with humanities departments rather than psychological or medical sciences. His superficial misuse of tough sciences such as mathematics and physics, just to impress, has been brilliantly denounced by Sokal and Bricmont (1997). However, Lacan, who was never offered a position in a French university, managed to attract many devotees and to exert unexpected influence on clinical psychology and psychiatry. His son-in-law, Jacques Alain Miller, has taken over the propagation of his ideas in an even more militant style. He is the central figure in the following story. To make it clear, the reader should know that in France, the title of psychologist, designating a profession, is protected by the law, like the title of medical doctor, and requires defined conditions in terms of university training and degrees. It is not the case of the title “psychotherapist,” which anyone can advertise on his/her door. In fact, many individuals who do not fulfil the requirements for practising psychology or medicine are practising one or another form of the numerous kinds of psychotherapies now available on the market.

Recently, a Minister of Health, having to consider funding of psychotherapeutic treatments by the health security system, ordered a study on comparative outcomes of various kinds of psychotherapies from the prestigious National Medical Research Institute (INSERM), while a project of law was submitted to the parliament aiming at defining the conditions (in terms of university degrees) to practise psychotherapy. The INSERM report, based on a survey of about 1000 studies evaluating different kinds of psychotherapies, was released early in 2005. It showed a very poor record for psychoanalytic treatments, somewhat better for family treatment of various orientations, and much better (yet far from perfect!) for cognitive-behavioural approaches. This, together with the legal requirements for practising, provoked a violent reaction from psychoanalytic circles that took on a political dimension. Some political leaders, including the new Minister of Health, now in charge of foreign affairs, attended a meeting chaired by Miller, the leader of the Lacanian group. The Minister declared publicly his adherence to the psycho-analytic credo, as formulated by Miller, that psychological interventions are not amenable to any scientific evaluation. He added that the INSERM report, although ordered by a former member of the government, and paid for, of course, with public money, was withdrawn from the website of the Ministry of Health. A violent campaign was organized with the support of the media, stigmatizing non-psychoanalytic therapists, especially those of the cognitive-behavioural orientation, accused of sharing Nazi-like ideology at work in the American forces in Guantanamo Bay and in Iraq. Here is only one short quotation from the arguments propagated by that psycho-analytic party: “*Criminal inclinations of the United States are clearly illustrated by what occurred at the prison of Abou-Graïb. One must know that tortures, psychological and physical alike, which have dis-gusted the whole world are applications of methods that have a name: these are exactly the behavioural methods*” (Miller, 2005).

What is at stake here, of course, is the scientific status of psychology applied to human

psychological problems, and the right of patients and clients to know in advance where they are being taken to by their therapist. Discarding the use of scientific criteria in some areas of psychological theory or practice is very much like claiming a religious alternate to the theory of biological evolution. The Lacanian psychoanalysts with whom French scientific psychologists are confronted today might be compared to creationists challenging scientific biology. They appeal to the magical concept of individual freedom and respect of the person in order to escape any questioning as to the outcomes of their practice, and to maintain their power and their economic advantages.

EAB IN SUISSE ROMANDE (FRENCH- SPEAKING SWITZERLAND)

There are four universities where psychological and educational sciences are taught in French in Switzerland: Geneva, Lausanne, and Neuchatel, located in French-speaking “cantons” proper, and the Catholic University in Freiburg, where teaching is offered in French and in German—the population of the canton being distributed between the two languages, with dominance for German. Geneva has a strong tradition of developmental psychology, going back to the founders of Institut Rousseau, among whom Claparède and Bovet had a prominent position and international prestige. Piaget was the major figure in the next generation, experimental psychology being practically identified with his own research programme. His creative genius was also very exclusive: Piaget had little inclination to attract around him psychologists not sharing his theory and methodology. It was no wonder, therefore, that EAB was not represented in the Faculty of Psychology and Education that eventually succeeded the Institut Rousseau. Other universities developed specialties having little or no place in Geneva, but mainly in applied fields such as social psychology, work and organization psychology, etc. They did not show more interest than Geneva in having EAB at level 1, involving theoretical and laboratory research. One should point also to the fact that, except for the efforts made by André Rey between 1940 and 1965 in Geneva, with little institutional support, animal research was not in favour in Swiss university departments of psychology. When it was given a (limited) place in Geneva, it was in the ethological area. To sum up, Suisse romande did not have fertile soil to grow behaviourist ideas and experiments, at least at the institutional level. There might have been a few persons interested in Skinner’s thinking at an individual level. At least two of them can be mentioned here: André and Anne-Marie Gonthier-Werren. They worked for a quarter of a century in the field of technology of education,

within the Skinnerian framework, pioneering in applied behaviour analysis, which will be discussed below. They have been fighting to have Skinner's book *Science and Human Behaviour* translated and published. They put a lot of energy, time and generosity into that project, which finally was achieved after two decades (Skinner, 1956/2005a).

Fortunately, applications of EAB in education, psychological treatment, and health psychology developed better than fundamental research, although they were slow in gaining audience. In a scanning survey of the Swiss scientific literature for the years 1980–1990, hardly a dozen of papers were found, mainly in the late '80s, dealing with ABA. These focused essentially on one of three domains: (1) behaviour modification in some aspects of psychopathology, initiated by Jean- Pierre Dauwalder, professor at the University of Lausanne; (2) school and educational context, more specifically computer-assisted learning, as a modern version of programmed instruction, and the use of classroom observation and techniques of reinforcement; and (3) special education, a field mainly developed in Freiburg by the group headed by Lambert.

From then on, applications did develop and were increasingly given institutional attention. As far as behaviour therapies are concerned, one has to emphasize, here as in most other places, that they have been associated with cognitive therapies. EAB is now a subject matter of teaching at various levels of the curricula. In Freiburg, a specific course is devoted to it in the first year of the BA degree at the Department of Remedial and Specialized Pedagogy. It is a part, of varying importance, of courses on learning processes in the curricula of students in psychology and in education at the universities of Geneva, Lausanne, and Freiburg. It is a component in specialized training in behaviour therapy as offered in the Lausanne University Institute for Psychotherapy, in the section of behavioural and cognitive therapies headed by Valentino Pomini. It is included in the continuous training of psychotherapists at the Geneva Medical School, Department of Psychiatry, which delivers a degree (3 years) in cognitivo-behavioural psychotherapies.

As a rule, behavioural and cognitive approaches have been developing mainly within the psychiatric institutions in Lausanne and Geneva, and to a more modest extent in psychiatric institutions in the cantons of Freiburg, Valais, and Neuchatel. A number of specialized units are active in various domains such as the treatment of anxiety and mood problems, of schizophrenia, of addictions (toxicomania, alcoholism, gambling), as well as in psychiatric rehabilitation, or treatment of feeding problems, for which cognitivo-behavioural approaches are well established, if not given preference. As another evidence of the progress of the approach, one can mention the recent opening at the Prangins Hospital (the West Psychiatric Sector) of the first treatment unit specializing in cognitivo-behavioural treatment, headed by Dominique Page. This is not to say that other units do not also apply that kind of treatment; what is significant is that it is the first explicitly labelled as such, emphasizing the therapeutic practice orientation rather than the

pathological category of patients to be treated.

An increasing number of day-care psychiatric units, aiming at rehabilitation of patients in normal social life, also include cognitivo-behavioural programmes in their therapeutic offerings. Applications to education have equally been developing in various institutions specializing in mental retardation, in children and adolescents with behavioural problems, and in family education. Many of these applications are backed by the Department of Remedial Pedagogy at the University of Freiburg, where practicum training in behaviour modification is offered. Several programmes inspired by Lovaas are also applied to autistic children.

Contrasting with the institutional environment, behavioural approaches are far less in favour among *private practitioners*, be they psychiatrists or psychologists. In Lausanne, a medium-sized city, they can be counted on the fingers of one hand, about the same number as in Freiburg, a smaller place. Geneva might have a few more. Behavioural practitioners are clearly outnumbered by those using other approaches, such as psychoanalysis.

Three professional associations are currently active in French-speaking Switzerland. One is the Swiss Association for Cognitive Therapy, the second the Swiss Society for Behavioural and Cognitive Therapy, and the third the French-Speaking International Interdisciplinary Association for Training and Research in Behavioural and Cognitive Therapy. The first two, in spite of their different labels, do indeed cover the same domain, largely defined as behavioural and cognitive therapies. Most of their members are medical doctors and psychologists, grouped together in the first case, or distributed in two sections as in the second.

All three associations organize seminars and workshops, complementing the teaching offered in universities, and the first two have established collaboration with universities—Geneva for the first, Lausanne and Freiburg for the second—in the implementation of courses towards specialized certificates and diplomas. It can be concluded that in the last few years training in applied analysis of behaviour has been seriously strengthened in Suisse romande (French-speaking Switzerland) and the times are gone when those persons wanting to receive training in the area had to go to Lyon to obtain the diploma organized there by Jean Cottraux. All the training programmes briefly described above attract a number of motivated persons. They obviously meet a demand from physicians and psychologists as well as from nurses and other people taking part in mental health programmes.

EAB IN FRENCH-SPEAKING BELGIUM

Belgium is a small country, but complex because of its linguistic problems, which eventually resulted in 1980 in a federalist structure, with some consequences on university and scientific affairs. The following account is limited to the French-speaking part of Belgium, and should not be extrapolated to the Flemish-speaking part, where the development of EAB has been somewhat different (for a survey of psychology in Belgium, see Richelle, Janssen, & Brédart, 1992). As in Switzerland, the common language has naturally favoured close relations with French psychology, although it has not eliminated the specific features of French-speaking Belgian psychology, as derived from different university traditions, shaped by different influences, and not constrained by such administrative and cultural centralization as is the case in France. One could say that within a small territory, the psychological landscape was more diversified. Although teaching of and research in psychology had been developed from the end of the 19th century, especially at the University of Louvain (a Flemish city where the French-speaking Catholic University was then located), the expansion of the field took place after the Second World War. Because of the individuals in charge of experimental psychology, each of the three universities, Brussels, Louvain, and Liège, would develop its own style and orientation with respect to main areas of research and theoretical emphasis. In Brussels, Paul Bertelson, who had been trained in the UK at the Broadbent laboratory, worked on reaction times and later developed a research group in cognitive human psychology. In Louvain, Georges Thinès, a former assistant of Michotte, perpetuated his master's interest in perception, but developed studies of animal behaviour along Lorenz's lines. At the University of Liège, Marc Richelle, who trained in Geneva and at Harvard, and was an unusual hybrid of Piaget and Skinner, started an operant laboratory in 1959, hosted by the pharmacology department at the Medical School. Operant chambers were homemade, and the control circuits were built after the model then in use at Skinner's laboratory, from electromechanical relays wired onto the external face as needed for running the schedules of reinforcement. Presumably, these were the first operant conditioning chambers on the European continent (maybe including the UK and Ireland). As a return for the hospitality of pharmacologists, research was partly devoted to behavioural pharmacology in animals (the story of the beginnings of the Liège laboratory and of related behavioural research in psychopharmacology has been told in Richelle, 1991). The laboratory was soon integrated into a newly created psychology department and became the core of the Chair of Experimental Psychology, where all psychology students had to take their practicum, taking part in one of the research projects being run at that time. Most of these projects involved EAB *stricto sensu* using animal subjects; others were genuine approaches to problems not traditionally considered by behaviour analysts in Anglo-Saxon countries, and still others were outside the Skinnerian framework, as Richelle made a point of not

limiting the perspective of his students to one exclusive approach.

In the first category, behavioural pharmacology studies continued, using mainly schedules involving temporal regulations of behaviour (such as fixed interval, or differential reinforcement of low rates of responding). From the early 1960s, behavioural time in its own right became the major and most permanent theme of operant research. Helga Lejeune devoted her career to time estimation and timing behaviour and is an internationally reputed expert in the field; she contributed a number of original findings and theoretical elaborations, especially on cross-species and cross-schedule comparisons (Lejeune, Richelle, & Wearden, in press; Richelle & Lejeune, 1980). Engaged in time studies also, Françoise Macar moved soon after her Masters degree to the CNRS neurophysiology laboratory in Marseille— headed by the French psychophysicist Jacques Paillard—where she continued along the same tracks, using human subjects. Both have maintained collaboration, joined by Pouthas, in Paris (see above). A third line of research in the 1970s is worth mentioning: The attempt to replicate Neal Miller's experiments on operant control of visceral responses, with the purpose of applying the technique to explore psychosomatic problems. A member of the staff, Ovide Fontaine, a psychiatrist, had been attracted by the techniques developed in Miller's laboratory, which he visited. His work was, unfortunately, doomed to failure, as Miller himself had to admit his incapacity to replicate his own results (giving the scientific community an exceptional example of intellectual honesty by publishing a paper on the issue; Dworkin & Miller, 1986). Fontaine then concentrated on his second field of interest, the development of behaviour therapy, which will be discussed below. A fourth line of research, closely related to the issue of selectionism as a major tenet of radical behaviourism, was aimed at exploring behavioural variability as the source of novel behaviour and creative production. Experiments on animals and humans were carried out and several theoretical papers published (Boulanger, 1990; Richelle, 1987, 1992, 1995; Richelle & Botson, 1974).

In the second category, two domains of research should be mentioned that exemplify cross-fertilization between approaches traditionally kept separate. One is the use of Skinnerian methodology, especially progressive errorless learning, in the study of cognitive development as described by Piaget. This research was initiated by Claude Botson and run by her and Michèle Deliège in a series of original experiments, which showed how mastery of concepts and logical relations in development could be boosted to some extent by adequate learning conditions, but to some extent only, as some crucial acquisitions in Piaget's description appeared to be strongly dependent upon developmental constraints (Botson & Deliège, 1975). The second domain was innovative in

merging EAB and the ethological approach to animal behaviour. A close collaboration with a colleague in ethology, Jean-Claude Ruwet (psychology students had to take an introductory course in ethology in their second year), was put to concrete form in joint seminars, the organization of a small international symposium (Richelle & Ruwet, 1972), and research putting together methods and hypotheses from both fields. The best of this collaboration has been a study by a master student on hoarding in the Syrian hamster, using operant conditioning in a semi-natural environment, with recording 24 hours per day over a period of several months and systematic observation of natural behaviour. For reasons explained in Richelle (1991), the study remained unpublished. A third domain is worth mentioning here, although it resulted more in theoretical than experimental contributions, i.e., psycholinguistics. They bore upon the relations between Skinner's analysis of verbal behaviour and linguistic approaches, especially Chomsky's theory (Richelle, 1972, 1993a, b). Anecdotally, it should be mentioned here that the first seminar on generative grammar ever held in French-speaking Europe, freely organized by Richelle and Nicolas Ruwet, took place, for local reasons, in the operant animal laboratory. Ruwet had been a student of Chomsky, and had just obtained his PhD with a remarkable thesis on generative grammar, as it was formulated at that time.

In the third category, one can mention research in visual perception, led by Roger Genicot, or much later—from the early 1980s—in musical perception, launched by Irène Deliège in collaboration with the Music Conservatory in Liège. Her dynamism eventually led her to found the European Society for Cognitive Sciences and Music (ESCOM), to start a new journal in sciences of music, and to attract several international meetings in the field to Liège. It might seem rather curious to some external behaviour analysts that a laboratory with a behaviourist orientation would host and support cognitivist psychologists. It was the philosophy of the laboratory to welcome people who had a project, and allow them full freedom to develop it.

Although the laboratory was essentially devoted to *experimental work*, some advanced students and researchers became interested in applications. Behaviour therapy became the main field of O. Fontaine, who founded the Belgian Association for Behaviour Therapy, and was active in the creation of the European Society; he contributed to developing collaborations with clinicians in various specialties at the Medical Faculty (Fontaine, 1979; Fontaine, Cottraux, & Ladouceur, 1984). Jean-Luc Lambert, Xavier Seron, and Martial Van Der Linden acquired expertise in behaviour modification (Seron, Lambert, & Van Der Linden, 1977). Lambert specialized in mental retardation and since 1980 has been professor at the University of Freiburg, in Switzerland (see above). The other two became reputed neuropsychologists, Seron leading a group in Louvain-la-Neuve, and Van der Linden one in Liège, and later in Geneva. As neuropsychology was a branch of psychology that had developed for some years in the cognitive orientation, none of these

practitioners would identify himself with EAB, although behaviour modification methods are integrated in practices towards the re-education of brain-damaged patients.

Richelle and his group undoubtedly formed the main centre of EAB in French-speaking Europe, and the point of origin of the diffusion of Skinner's work and thinking in the French area. Richelle's book *Le Conditionnement Operant* was published in 1966, followed by *Skinner ou le Péril Behaviouriste* (1978) and a number of papers on various issues, such as verbal behaviour, the relation between Piaget's constructivism and Skinner's theory, EAB, and ethology, reprinted in French in Richelle (1993a), and the substance of which is part of *B. F. Skinner: A Reappraisal* (Richelle, 1993b). The first three books of Skinner published in French were translated by Richelle, as mentioned in the Introduction. The Liège laboratory organized the first two European Meetings on the Experimental Analysis of Behaviour (EMEAB) in 1983 and 1988. Skinner was present at the first of these meetings, attended by more than 300 participants, and delivered an invited lecture entitled "The Evolution of Behaviour" (see Lowe, Richelle, Blackman, & Bradshaw, 1985). The 1988 meeting was no less successful and, as the first, was an encounter between behaviour analysts from Europe and other continents and psychologists or other scientists working with different approaches on the topics selected, such as the psychology of time, reasoning, language, and behavioural medicine (see Blackman & Lejeune, 1990). The third EMAB took place in Dublin in 1997, and the fourth in French-speaking Europe again, in Amiens in 2000.

One has to say that Liège is no longer the EAB centre it had been for more than three decades. Shortly after Richelle retired in 1995, the label of the "experimental psychology" laboratory changed to "cognitive psychology," the new generation having adopted other epistemological frames of reference.

At the level of applied analysis of behaviour, behavioural therapy in French-speaking Belgium developed largely better than in France, but not as well as in the Flemish part of Belgium, where psychoanalysis was less dominant and where clinical psychologists were more open to Anglo- Saxon influences. Besides the decisive impulse given by Fontaine from Liège, at the Catholic University of Louvain, a stronghold of Freud, Lacan, and Szondi disciples, two psychoanalysts questioned the exclusivity of the psychoanalytic stance. Winfrid Huber wrote his Doctor's thesis on the comparative study of psychoanalytic vs behavioural hypotheses on therapeutic processes in the treatment of phobias (Huber, 1967). He soon introduced information on behaviour therapies into his teaching of clinical psychology and psychological treatments (Huber, 1987). Jacques Van Rillaer made a complete break with psycho-analysis and became a champion of behaviour therapies and of the demystification of Freudian claims to superiority in theory and treatment

efficiency (Van Rillaer, 1981). At the University of Mons-Hainaut, Ghislain Magerotte introduced behaviour modification in the field of special education. On the whole, as in most other places, the behaviour therapy label was changed to cognitive-behavioural therapy. This now has its place, varying in extent from one university to the other, in the *teaching and training* of clinical psychology everywhere and in the *practice* of an increasing number of practitioners. The behavioural approach has also been increasingly adopted in *special education* for physically or mentally handicapped children, or more widely in *general education*. We cannot possibly mention here all individuals or teams that make use, more or less intensively, of EAB principles in their educational or clinical practice. Let us limit ourselves to one example, probably unique in its style in French-speaking countries: the Institute for Child and Family Development established in Auvclais by Christian Lalière.

CONCLUSION

This survey of EAB in French-speaking Europe is admittedly far from complete. In the time allocated, the authors could not possibly enquire into all the historical details and other ramifications. They apologize for omissions of persons or groups that were deserving of mention. It is hoped that, as it is, this paper provides a reasonably accurate picture of the EAB movement in the territories bounded by their common language, but distinct in their receptiveness—or lack of receptiveness—to the last important phase of American behaviourism. The picture can be characterized briefly in the following points.

1. In none of the three geographical areas being considered could psychology be said to be prepared to integrate radical behaviourism, for reasons linked to the past—while everyone would pay lip-service to the definition of psychology as the science of behaviour, few were willing to endorse the implications of behaviourism, not to speak of radical behaviourism; or to the present—by the time some faint echoes of Skinner's work reached France and its neighbours, cognitivism had already invaded the place. Many endorsed Chomsky's peremptory judgment on *Verbal Behaviour* and took this as a pretext to dispense with reading Skinner's original work for themselves.
2. Although in all three areas, some laboratories adopted the operant techniques that were especially appropriate in their research, usually in animal studies in psychopharmacology, psycho-physiology, and the like, interest in the theoretical aspects of radical behaviourism was quite limited. The few exceptions, notably in Liège, and later in Lille, were the result of the peculiar trajectory of individuals who did work at the propagation of Skinner's ideas.
3. On the contrary, *applications*, mainly in behaviour therapy and in special and normal education, did develop in all French-speaking countries or regions, at

different times and rates, from the 1970s on. On the whole, Belgium was first, followed by France and then Switzerland. In France, progress was confronted with the reactions from psychoanalytic circles, which became highly polemical and conflictual. This was especially so in the last 2 years, when psychoanalysts felt threatened by legal dispositions aimed at controlling the formation of all psychotherapists and by scientific reports questioning the efficiency of psychoanalytic treatment. Although some polemics occurred in Belgium and Switzerland as well, they remained more urbane and never reached the violent tone that has characterized the French situation.

4. To the question: How is it that applications, especially to treatment, had so much more success than the theory from which they were derived? A partial answer is: Because behavioural approaches have merged with cognitive approaches, which have, so to speak, exorcized them. Another answer would go like this: Practitioners are pragmatic people, and if they observe that two kinds of therapy seem complementary rather than opposite, they see no sense in rejecting one in favour of the other; they use both. Would people in practice have gone beyond theoretical debates, and reconciled behaviourism and cognitivism? Who knows?

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