

## Psychology's Evolution through its texts: Analysis of E. R. Hilgard's *Introduction to Psychology*

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Introductory textbooks may be considered as testimonials to the level of a science at a given time. Hilgard's *Introduction to Psychology* has been published in 13 editions, the first in 1953 and the last in the year 2000. The analysis of the successive editions of this text provides information regarding the changes that have taken place within the field of psychology during the last half of the 20th century. The contents of the text that are analyzed in this study include the definition of psychology that appears throughout this period, the emphasis that is given to the various psychological processes and the areas of psychology, and the presence of authors with a large number of works cited in the successive editions.

*Evolución de la Psicología a través de sus textos: Análisis de Introducción a la Psicología de E.R. Hilgard.* Los manuales introductorios pueden ser considerados como testimonios del nivel de ciencia de un momento dado. La *Introducción a la Psicología* de Hilgard ha sido publicada en 13 ediciones, la primera en 1953 y la última en el año 2000. El análisis de las sucesivas ediciones de este texto proporciona información en relación a los cambios que han tenido lugar dentro del campo de la psicología durante la última parte del siglo XX. Los contenidos del texto que se han analizado en el estudio incluyen la definición de psicología que aparece a través de este período, el énfasis que se ha dado a los diversos procesos psicológicos y las áreas de la psicología, y la presencia de autores con un gran número de trabajos citados en las sucesivas ediciones.

A singular testimony to the state of a science at a given time is an introductory textbook, which presents the field. In these texts one may observe the depth with which different topics within the discipline are handled usually without excessive bias of an author's individual preference. A balance is achieved between the latest research and the more stable body of shared knowledge.

In general or introductory texts, we find sections including conceptual, methodological and historical aspects. The homogenisation of the structure seems to be parallel to the growing presentation uniformity. At present, student textbooks make up a literary-scientific genre in its own. This is a genre with an intellectual market, as in Bourdieu (1991), reasonably defined but with blurred boundaries (from the curious layman to ordinary students and even some professionals and public instances), and an economic market of hundreds of millions per year. This literature plays a relevant role in creating the required disciplinary identity that helps both scholars and professionals defend their positions against attacks, interference, and competition.

Textbooks have a proto-typically Kuhnian mission. In them, great reconstructions are made on grounds of socialisation of apprentices and scientist-candidates. Their aim is to get them to be

familiar with an official image of the discipline in which they are being socialised, an image generally shared and assumed by the academic leaders of the time.

Textbooks provide students with a comprehensive background in which singular elements addressed by psychology can be introduced. If «history is explanatory, it is not so because its narration is supported by general laws. Rather, it is due to the fact that readers say 'Now I know what happened' as well as 'Now it makes sense; I understand now; a sheer list of facts have now turned into recognisable guidelines» (Kuhn, 1977/1982, 42).

Our work hypothesis indicates that changes must have occurred in the contents, organisation, presentation, objectives and emphasis of textbooks along time. This is why textbook analyses carried out in successive editions help illustrate the transformation of a discipline, i.e. Psychology, in a given period of time. The study of a selection of editions of Hilgard's texts will allow us to recreate the process throughout five decades.

This type of analysis could be useful to students, given the number of assumed *re-foundations* undergone by Psychology since the 1950s at times of spectacular growth.

In this paper the successive editions of *Introduction to Psychology* by Ernest R. Hilgard are examined. This analysis provides information regarding the changes that psychology underwent in during the second half of the twentieth century.

This text was chosen for several reasons. It is widely used in the United States in University level introductory courses (Griggs & Jackson, 1996). Thirteen editions of this book have been published, the most recent in the year 2000, and in each new volume the authors updated the contents in accordance with the dominant ten-

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dencies of the times. A previous survey of this work in Spain was carried out at the end of the seventies (Carpintero, Pascual, & Peiró, 1977), and other survey in American Psychology was carried out at the nineties (Griggs & Jackson, 1996). For the present analysis the first edition and the last (13th edition) were included, covering a period that spans half a century. The additional authors that have been included in the text, Rita and Richard Atkinson in the early editions and these authors along with Edward E. Smith, Daryl J. Bem, and Susan Nolen-Hoeksema in the last edition entitled *Hilgard's Introduction to Psychology*, help to broaden the spectrum of tendencies that are represented.

Specifically, this analysis includes seven editions of the Text: the first (Hilgard, 1953), the third (Hilgard, 1962), the fourth (Hilgard & Atkinson, 1967), the fifth (Hilgard, Atkinson, & Atkinson, 1971), the seventh (Hilgard, Atkinson, & Atkinson, 1979), the eighth (Hilgard, Atkinson, & Atkinson, 1983) and the last, the 13th edition, published in 2000. This selection of successive editions covers half a century of our scientific field. By examining the contents included in each of these volumes, features that characterize the changes of psychology during this period can be identified.

With regard to the authorship of the texts, the first three editions are published by E. R. Hilgard, in the fourth edition Richard C. Atkinson is added, in the fifth Rita L. Atkinson is also added and in the last edition Richard C. Atkinson and Rita L. Atkinson appear together with Edward E. Smith, Daryl J. Bem, and Susan Nolen-Hoeksema. In this last volume Hilgard is not present as an author, however, his name appears in the title: *Hilgard's Introduction to Psychology*.

#### Definition of psychology

An important indication of the changes that have taken place in contemporary psychology in the second half of the twentieth century is offered by the definition of psychology that appears in the different editions during this period.

In the first edition, published in 1953, psychology is defined as «the science which studies the behavior and experience of living organisms» (Hilgard, 1953, p. 13). To complete this definition Hilgard specifies what is meant by behavior and experience. «By behavior we mean those activities of an organism that can be observed by an outside person, or by an experimenter's instruments» (p. 13) and «By experience the psychologist means those events of which only the experiencing person can be fully aware» (p. 14). An individual's perception of the world, as well as one's memories, imagination, dreams, pleasures and pains belong to one's private realm. According to Hilgard, psychology is also interested in this realm, even though it can only be accessed through inference. He makes clear that we can have knowledge about a person's suffering and pain from external signs of pain, and can even make a satisfactory judgment as to the intensity of that pain, however, the experience of pain is private.

The third and fourth editions of 1962 and 1967 respectively, offer the following definition of psychology: «the science that studies the behavior of man and other animals» (Hilgard, 1962 p. 2-3; Hilgard & Atkinson, 1967, p. 3).

In the fifth edition (Hilgard et al., 1971) a new change takes place: psychology is defined as «the scientific study of behavior and mental activity» (Hilgard et al., 1971, p. 3). In the seventh and eighth editions the authors continue to define psychology as «the scientific study of behavior and mental processes» (Hilgard et al.,

1979, p. 3; Hilgard et al., 1983, p. 3). Finally, in the last edition, the definition practically remains unchanged: «Psychology can be defined as the scientific study of behavior and mental processes» (Atkinson, Atkinson, Smith, Bem, & Nolen-Hoeksema, 2000, p. 3).

Although Hilgard included observable behavior and subjective experience as objects of study within the domain of psychology in the first edition, in the following decade behavior came to occupy the entire field of psychology (Hilgard, 1962; Hilgard & Atkinson, 1967). In the early seventies mental activity once again is studied along with behavior (Hilgard et al., 1971) and well into this decade psychology comes to be defined as the study of behavior and mental processes, a concept which has remained unchanged until today (Griggs & Jackson, 1996).

The definition of psychology as the science of behavior which was held throughout the sixties coincides with the great number of behavioral articles published in the major scientific journals (*American Psychologist*, *Annual Review of Psychology*, *Psychological Bulletin*, and *Psychological Review*) during this period according to a study recently published in the *American Psychologist* (Robins, Gosling, & Craik, 1999). The Robins et al. study also shows that during the seventies there is a steep increment in the number of articles on cognitive psychology, which had been gaining ground since 1960, and a concomitant decline in behavioral articles.

The modifications in the definition of psychology were made in the direction of reincorporating mental life in the concept of behavior, and thus allowing both realms of activity to be contemporary research topics within this science (Garner, 1988; Leahey, 1998). The texts of Hilgard; of Hilgard and Atkinson; and of Atkinson, Smith, and others respond to the growing movement in psychology toward including the subjective and conscious dimensions of behavior which radical and methodological behaviorism tried to eliminate from the field of psychology (Hergenhahn, 1994). It is along these lines that in the seventies the term «activity» was substituted for that of «processes», which refers to concrete and defined entities instead of the more ambiguous concept of «activity». In the year 2000 Psychology continues to be defined as the *scientific study of behavior and mental processes*.

#### Content analysis

Another indicator of the changes that have taken place in the field of scientific psychology can be provided by analyzing the specific contents of the successive editions. In the following sections the general topics that were included in the successive editions of the text will be presented.

The first part of the text, refers to the general concept of psychology and the scope of its activity in all of the editions, however it receives varying amounts of attention throughout the period studied. In the first edition 14 pages are dedicated to an introduction that deals with the «Problems of Psychology». In the third, fourth, and fifth editions this first part is entitled «The science of psychology» and includes two sections: «Psychology as a Behavioral Science» and «The Behaving Organism». Also during these years the importance of the behaviorist definition of psychology is made apparent throughout the texts. The seventh and subsequent editions begin with a first part entitled «Psychology as a Scientific and Human Endeavor» which includes a chapter on «The Nature of Psychology». They cover the historic evolution of scientific psychology, a description of current perspectives and theories, and an introduction to research methods. The number of pages dedica-

ted to this first section is greater than in the three editions in which psychology is regarded as the science of behavior (third, fourth, and fifth editions).

The second part of the text is dedicated to the growth and development of psychology and its contents undergo an interesting evolution during this period. From the first to the fifth editions (1953-1971) the study of the different stages of human development (childhood, adolescence, and adulthood) is described. In the seventh edition (Hilgard et al., 1979) this section of the text is entitled «Biological and Developmental Processes» and includes «Biological Foundations of Behavior» and «Psychological Development». In the eighth edition this section is modified and is entitled «Neurobiological Basis of Psychology» and in the last edition the title was changed back to «Biological Foundations of Behavior». It is observed that from the seventh edition (Hilgard, et al., 1979) on there is an interest in the biological bases, initially of behavior, and in the last decades of psychology in general, including the brain functions associated with the psychological processes, especially language.

### *Psychological processes*

The analysis of the basic psychological processes dealt with in the text indicate that these topics also underwent changes during the period studied. In the first edition (Hilgard, 1953) one chapter is dedicated to perception, learning theory and thinking processes. In the third edition (Hilgard, 1962) there is an entire chapter on perception that includes the perception of objects and events and the role of the senses in perception. In the fourth edition (Hilgard & Atkinson, 1967) this chapter also includes a section on «States of Awareness». In the following edition (Hilgard, et al., 1971) this chapter is entitled «Perceptual Processes» and includes three clearly differentiated subsections: sensation, perception, and states of awareness. From the seventh edition onward (Hilgard, et al., 1983) this chapter becomes «Perception and Consciousness», with the exception of the last edition (Atkinson, 2000) in which the order is reversed. From these changes it can be observed that the study of consciousness has become increasingly important.

With respect to other psychological processes, Learning, Memory, and Thinking Processes frequently appear together in the successive editions. As was mentioned above, the first edition (Hilgard, 1953) dedicates only one chapter to learning, perception, and thinking. In the third, fourth, and fifth editions (Hilgard, 1962; Hilgard & Atkinson, 1967; Hilgard et al., 1971) the title of this chapter is «Learning and Thinking», and includes the different learning theories and their applications; memory and the problems associated with remembering; and language, thinking and problem solving. In the seventh to the last edition (Hilgard et al., 1979, Atkinson, Atkinson, & Hilgard, 1983; Atkinson et al., 2000) the overall title of this chapter is «Learning, Remembering and Thinking». The different processes involved in remembering are detailed in the chapter's subtitles and a section is dedicated to language and thinking. This analysis indicates that learning theory has played a major role in the field of psychology during the past fifty years, a role shared with memory, language, and thinking from the seventies to the present (Griggs & Jackson, 1996).

Regarding motivational and emotional processes, the first edition includes a chapter entitled «Motivation, Emotion and Adjustment». In the sixties (third and fourth editions) a chapter entitled «Motivated and Emotional Behavior» appears, that reflects once

again the important role that behaviorism played in the United States during this period. From the fifth edition to the present the term behavior is dropped from the title and the chapter becomes «Motivation and Emotion».

Topics related to individual differences and personality also have a place in Hilgard's text. The changes that occur between the first and the last editions are interesting and highlight the different perspectives that have predominated in the study of intelligence and personality throughout the period. In 1953 Hilgard included a chapter entitled «Individuality» that primarily dealt with intelligence (the measurement of differences in intelligence) and personality. In the third, fourth, and fifth editions the title is changed to «Individuality and Personality» and in subsequent editions (7th, 8th and 13th editions) it becomes «Personality and Individuality».

In the seventies (third and fourth editions) new sections are added that cover statistical methods and measurement, intelligence and aptitude tests, heredity and individual differences, and personality theories and evaluation. Perhaps the most striking feature is the amount of attention given to aptitude tests and intelligence (it is the longest section in the chapter, especially in the third edition) during this decade. In the fifth edition, the topic of tests is dropped from this section and intelligence is dealt with more generally, while other sections are dedicated to personality and evaluation. In the seventh and eighth editions two new sections are added to this chapter: Mental abilities and their measurement, and personality and its evaluation. The concept of Intelligence loses predominance in favor of mental abilities and other processes. In the last edition the chapter on personality and individuality includes the study of individual differences and personality. In this edition intelligence and aptitude tests have lost their dominance giving way to contemporary theories of intelligence such as those developed by Anderson, Garner, and Sternberg.

Topics regarding conflicts, mental health and psychopathology underwent considerable changes during the period. The first edition only dedicated one chapter to conflict and adjustment and it was shared with motivation and emotion. In the third edition through the eighth this changes; a chapter dedicated to «Conflict, Adjustment, and Mental Health» is added. Later in the third, fourth, and fifth editions the terms used are «Conflict and Adjustment», and with the seventh edition the term stress included and the section is entitled «Conflict and Stress». In the text's last edition the concept of coping is also included and the section becomes «Stress, Health, and Coping». In this edition coping strategies occupy a central role in regulating the stress response and in its consequences for health and disease.

The text has a final part that deals with social psychology that is heterogeneous in the first edition and develops greater uniformity in the following volumes. In 1953 Hilgard dedicates two final chapters to this area. One chapter is entitled «Psychology Applied to Personal and Social Problems» that includes: mental health and readjustment techniques, vocational adjustment, industrial psychology, public opinion and advertising, and the special problems of specific social groups. The other chapter is entitled «Psychology as a Science and as a Profession» and deals with the beginnings of experimental psychology, psychological systems, methods, the relationship between psychology and the other sciences, and the role of the psychologist in society.

In the following editions Hilgard's *Introduction to Psychology* ends with a chapter on «Social Behavior». In the third and fourth editions there is a specific section on «Psychology as a Profes-

sion». In the following decades this area is referred to as social psychology, and in the last edition sections on «Social Cognition and Affect» and «Social Interaction and Influence» are considered. Here problems such as the role of cognitive schemes, stereotypes, attributions and attitudes in social relationships, that is, the cognitive processes and affects that intervene in one's relationships with others.

Most relevant authors

Let us consider, as a starting point, that the number of citations of a given author is indicative of his/her relevance in a textbook. Based on this assumption, the authors most frequently cited in the first edition (1953) and the latest one (2000) have been selected, particularly those with more than ten citations (see Table 1).

As shown by Table 1, those authors most frequently cited in the first edition are no longer those in the 13<sup>th</sup>, as more recent psychology authors seem to take over. It must be noted, though, that classic authors such as Freud and Piaget remain highly cited.

1st Edition:		13th Edition:	
Name	Frequency	Name	Frequency
Allport, G.W.	11	Bandura, A.	10
Lewin, K.	10	Coren, S.	10
McNemar, Q.	10	Enns, J.T.	10
Miller, N.E.	10	Freud, S.	25
Rogers, C.R.	10	Nisbett, R.E.	11
Terman, L.M.	13	Piaget, J.	13
Thurstone, L.L.	10	Ross, L.	10
		Seligman, M.E.P.	10
		Squire, L.R.	14

Based on these results, the evolution of the most cited authors has been studied in the editions reviewed.

Figure 1 shows the evolution of 1953 edition relevant authors (Hilgard's Text) taking into account the number of citations in successive editions.

The citation analysis shows that L.M. Terman (13 citations) and G.W. Allport (11 citations) are the two authors most frequently cited. The former disappears as from the 5<sup>th</sup> edition, that is, the early 1970s; the latter has a more reduced presence during the same decade and eventually disappears in the late 1970s. The same applies to K. Lewin: his presence gradually fades away along the decade; L.M. Thurstone has the highest citation score at the beginning of the 10-year period but he disappears in the early 1980s. In general terms, the authors most frequently cited in the first edition –outstanding figures in the intelligence field– tend to disappear in the late 1970s. Only one of the most cited authors in 1953, Carl Rogers, seems to have a similar citation number all along the 13<sup>th</sup> editions of the Text (See Figure 1). Classic theories on intelligence and personality do not seem to be so relevant in today's psychology, giving way to more current approaches within the framework of cognitive psychology, as we shall see next in the latest edition.

A citation analysis has also been carried out for those authors most frequently cited in the latest edition. As shown by Figure 2, Sigmund Freud is most cited in the 13<sup>th</sup> edition (2000), followed by M.E.P. Seligman and R.E. Nisbett, with a growing presence since the late 70s. Other frequently cited authors are L. Ross, S. Coren, J.T. Enns and L.R. Squire, specialists in perception processes. The increase of cites of Squire in the last edition is a new token about the presence of the cognitive neuropsychology in the current psychology such it is showed in the revision of Robbins et al. (1999). J. Piaget, who had been absent in the 70s, has relevant presence in the last edition.

Evolution of authors most frequently quoted in the 1st edition

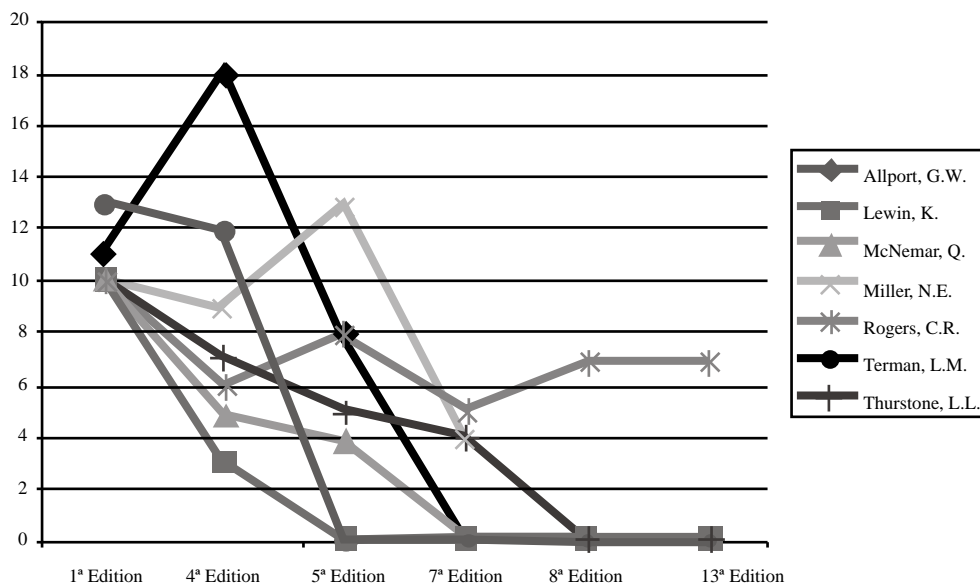


Figure 1. Evolution of the most cited authors, 1st edition

## Evolution of authors most frequently quoted in the 13th edition

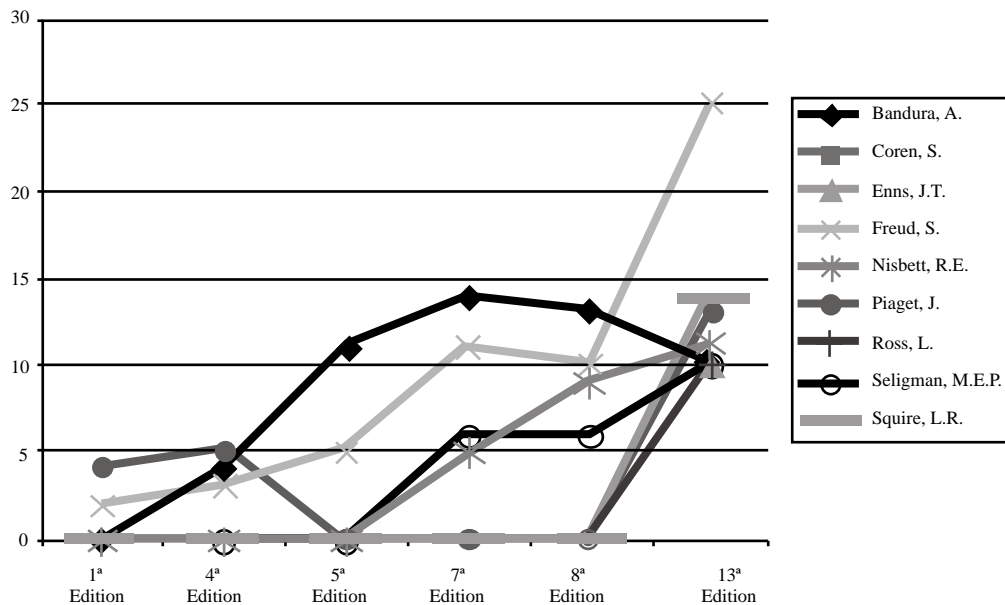


Figure 2. Evolution of the most cited authors, 13th edition

As a conclusion, some psychology authors –despite the changes in the discipline– have specific weight, e.g. Freud, Piaget, Rogers, Skinner, or Bandura. New names appearing in latest editions point at the innovation of recent decades in scientific psychology, new theories on memory, mental representation models, concept categorisation and formation processes, recent theories on learning, layout theory, and the latest theories on Intelligence and the relationship between cognitive and affective processes. All these developments are present through the authors cited in the last three editions (since 1979).

The loss of authors such as Allport, Eysenck, Guilford, Hull, Lewin, Osgood, Stevens, Terman, Catell, or Woodworth is indicative of the distancing from classic psychology authors representing intelligence, learning or personality theories that are considered milestones in the development of this discipline.

### Conclusions

In conclusion, there are authors in psychology that have maintained their eminent position despite the changes that the discipline has undergone over the past half century. Among this distinguished group are Freud, Piaget, Rogers, Skinner and Bandura. The importance of Bandura and Freud across 10 editions (Griggs & Jackson,

1996) increases in last editions, Freud duplicates the frequency of references. This information shows that in the current Cognitive Psychology it is checking some cites of Freud. At this moment we are carrying out analysis of the cites of Freud in Journals of Psychology to check this impact. At the same, the new names that appear in the latest editions attest to the innovations that have been introduced in scientific psychology during the last decades. The current trends that are developed by the authors that appear in the last three editions (from 1979) include new theories regarding memory, models of mental representations, concept formation and categorizing processes, the most recent learning theories, the theory of mental maps, recent theories regarding intelligence, and the relationship between cognitive and affective processes.

The loss of authors such as Allport, Eysenck, Guilford, Hull, Lewin, Osgood, Stevens, Terman, Catell, and Woodworth is indicative that the classic authors in psychology that are the clear representatives of the theories of intelligence, learning and personality that marked the turning point in the development of this discipline are omitted.

In sum, the successive editions of Hilgard's *Introduction to Psychology* are evidence of the evolution that Psychology has undergone toward including mental activity and mental processes as topics worthy of attention in the last decades.

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