

NATIONAL TRENDS IN PSYCHOLOGY? THE CASE OF BRITISH TRADITION

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RESUMEN

Hace poco más de un siglo existían, según T. Ribot, dos grandes formas de entender la Psicología, en Alemania y Gran Bretaña respectivamente que podían caracterizarse por rasgos diferenciales. Desde entonces, el ideal de una ciencia universal sin fronteras nacionales de ningún tipo, ha venido oscureciendo de vez en vez la existencia de tendencias nacionales consistentes, y ello tanto en la teorización como en la aplicación. Al menos por lo que respecta a los investigadores más relevantes en psicología, parece que debemos rendirnos a aceptar la existencia de esas *tendencias nacionales* en Psicología. Nuestro objetivo es evaluar el impacto de los científicos británicos (nacidos durante el siglo pasado entre 1804 y 1893) en el ámbito de la psicología actual, y ver si sus representantes de mayor impacto reflejan o no un carácter idiosincrático y propio de las Islas Británicas. En este artículo, se pretende cumplir el objetivo perseguido analizando el impacto -medido en términos de número de citas- de una muestra representativa de autores de la ciencia británica del siglo XIX -investigadores incluidos en la Escala de Estimación publicada en 1968 por Annin, Boring y Watson- en las ciencias sociales, y especialmente en Psicología -un ámbito pluridisciplinar bien representado por las referencias contenidas en el Social Sciences Citation Index-, actuales (1966-1985).

ABSTRACT

A century ago, according to Ribot, there were two existing branches of Psychology, in German and England respectively, which could be characterized by differentiating traits. Since then, the ideal of a universal science without national boundaries of any description, has occasionally obscured the reality of the consistent national trends which have occurred in research and theorising. However, as regards to most prominent authors in the field, it seems we are forced to admit the existence of these *national trends* in Psychology. Our aim is to assess the impact of British scientists born in the past Century) in the current psychological tradition. In this paper, the impact that the British authors included in the Annin, Boring and Watson Ranking have had on the Social Sciences Citation Index, as measured by the number of citations, is studied for the period 1966-1985.

INTRODUCTION

A century ago, Ribot could speak of two existing lines in psychology, the English one and the German one, and he could also characterize both lines with differential traits. He mainly suggested that the English tradition appeared more oriented to the naturalistic description of the mental processes, that are taken as associative phenomena well related to antecedent conditions and to some physical consequences. The German tradition, by its part, focuses on the explanation of the psychical processes, from a psychophysiological and experimental basis. This simplistic portrayal

emerges from the well-known books of Ribot: *English Psychology* (1870), and *German Psychology of Today* (1879), whose titles clearly illustrate the issue.

Since then, the ideal of a universal science without national boundaries of any description has, from time to time, obscured the reality of the consistent national trends which have occurred in research and theorizing. However, as regards to most *productive* and *visible* authors in the psychological field, it seems we are forced to admit the existence of these *national trends*. This fact seems well established throughout our data. Elsewhere, we have shown the dominance of French scientists in French journals, the dominance of British scientists in British journals, the dominance of German scientists in German journals, the dominance of Spanish scientists in Spanish journals, and the dominance of American scientists in American journals (Carpintero y Tortosa, 1990).

It is a well-known fact that the most prominent views printed in American textbooks on the History of Psychology, are centred mainly upon their own traditions, paying much less attention to other national traditions. As Hebb wrote some years ago, "to a great extent, American Psychology today is psychology" (Hebb, 1960). This fact cannot be denied, but it is also true that Hebb's assertion must be contrasted and limited, with adequate recognition of different national traditions in contemporary psychology. As Fraisse (1972) wrote "it is (in Germany) where Experimental Psychology was really founded, and their methods were diffused incredibly quickly to other countries. However, the beginnings of experimental psychology in England, France, Russia, and the United States, are branded with the intellectual tradition of every country, and institutions connected to the new science". This is coincidental with the analysis of Ben-David and Collins (1990) of the social origin of psychology, which showed how different national conditions favoured the emergence of the discipline in Germany -the *positive* case- but not in other countries -USA, France, Great Britain-, the *negative* cases.

In recent years, and to a great extent due to the importance of the approaches of the critical historiography, constructivism and historiometric and content analysis, the question of *National Psychologies* and its problematic reality has once again become the subject of great controversy. In the first volume of the *Journal of the History of the Behavioral Sciences* (1965) the undoubtable existence of this controversy was already recognised, and various works were collected on the national trends in psychology. These studies originated from a Symposium under the chairmanship of E.R. Hilgard and organized by R.I. Watson that, monographically dedicated to this subject -"The Historical Background for National Trends in Psychology"-, took place in the Seventeenth International

Congress of Psychology held in Washington, D.C. in 1963. Here the cases of the United States (Watson, 1965), France (Reuchlin, 1965), Great Britain (Drever, 1965), and Germany (Metzger, 1965) were considered. This same differential reality was also included in various books of the History of Psychology dating from years back (v.g., Roback, 1964; Hearnshaw, 1964; Misiak y Sexton, 1966; Sexton & Misiak, 1976; Gilgen y Gilgen, 1987; Perls, 1987; Woodward y Ash, 1982; Ash y Woodward, 1987; Morawski, 1988)

The purpose of this work is to determine the impact of 19th century British Science on Contemporary Social Sciences, through the impact of British researchers. The number of aspirants on a list of British researchers relevant to present-day Social Sciences can be endless, and the criteria of selection always problematic. Therefore, it has taken as a point of departure one population of recognized eminence in Social Sciences in general, and one in Psychology specifically. The population studied were researchers included in the Ranking proposed by Annin-Boring-Watson (1968). Scientists of eminence recognized by expert judges in the History of Psychology. They will be evaluated in terms of their impact on a multidisciplinary source of references as the *Social Sciences Citation Index* (SSCI) for the period 1966-1985.

METHODOLOGY, OBJECTIVES AND SOURCES

As the Spanish philosopher Ortega once pointed out, the main category of history is *eminence*, and all varieties of History always discuss around this subject. The actions and creations of some people serve to channel, positively or negatively, the developments which others may carry out. There is a full historical dialectic, and in it what is *important* is that which is efficient and functional within the interaction and social communication matrix which makes up scientific organization. In such a radical search, we only become fully conscious of the problems involved in establishing the eminence of previous works and authors when we observe the low level of convergence between different Estimation Scales or Surveys attempting to determine the *great undertakings* of a period or country. In our search for adequate measuring techniques we reach bibliometric methodology, a procedure applied to written manifestations characterizing any science. This technique may be integrated in a more comprehensive approach to explain historical evolution (Carpintero y Tortosa, 1990). The epistemological framework of this approach is supported by Campbell's selectional evolutionary epistemology (Campbell, 1960, 1989), which is also well developed in the framework of the historiometry in Simonton's "chance-configuration" theory (Simonton, 1988, 1989)

Any attempt to determine the relevance of an author, or group of authors, in a specific scientific field, usually turns into a controversial problem

of establishing indicators or criteria which allude to quality or scientific relevance. The range of useful indicators to measure the impact of scientific production is very wide. However, in comparison with the traditional way of facing the topic of scientific quality -based on a retrospective judge of the past using Estimation Scales (i.e., Coan y Zagona, 1962; Annin, Boring y Watson, 1968; Seberhagen y Moore, 1969; Wright, 1970; Pecjak, 1984; Heyduck y Fönigstein, 1984)-, current historiographic tendencies point towards more objective and social criteria. These are based on the amount of space occupied by authors in textbooks or specialized books (i.e., Wrenn, 1964; McCollom, 1973; Higbee, 1975; Tortosa y Carpintero, 1980; Perlman, 1984; White, 1985; Zusne y Dailey, 1982; Zusne, 1985), on the analysis of references appearing in specialized journals (i.e. Tortosa, Carpintero y Peiró, 1981; Carpintero, 1985; Carpintero, Peiró y Tortosa, 1989), and on the analysis of references appearing in multidisciplinary sources (i.e., Garfield, 1977a y b, 1978a y b; Endler, 1979, 1987; Tortosa y cols., 1983, 1989, 1991; Solso, 1985).

In the present work we shall study the sample of *Eminent Contributors to Psychology* elaborated and examined in the well-known set of articles written by R.I.Watson (Annin, Boring y Watson, 1968; Watson y Merrifield, 1970, 1973). In our work the criterion will be the number of citations received by the individual authors and reported in the SSCI from 1966 to 1985. These data will be used as indicators of *contemporary* visibility of those authors considered as a group, with special attention paid to the 50 authors who were born in British lands (i.e., England, Wales, Scotland, Ireland), with biographical and professional data offered by R.I.Watson (see Brozek & Evans, 1977) and L.Zusne (cfr. Zusne, 1975, 1984) as a starting point. A differential analysis of these authors according to the several variables will also be complemented.

The studies carried out in Psychology, and in other disciplines, with multidisciplinary tools as the SSCI as a starting point, are numerous. Generally speaking, the number of citations provide indices of reliable and objective impact. Nevertheless there is a danger of these sources leading to false interpretations if not used correctly. This danger can be avoided if one takes into account the limitations of the source and of the data, and the possible errors due to improper use (i.e., type, origin and speciality of the included items-source, formal defects in the included items, the probable inclusion of various different authors in one case when surnames and names coincide, the lack of control on the successive editions of the works cited, the ~~saxon~~ researchers which change their marital status, human errors, the qualitative dimension of the references, the omission of an explicit reference in the case of well-known authors ...). However, there is plenty of evidence that psychologists judged to be eminent are also those with the greater number of references in scientific literature (Myers, 1970; Endler, 1987; Tortosa y cols., 1989; Simonton, 1989, 1990). In a previous study (Tortosa y cols.,

1983), we showed the high correlations of data obtained through citation analysis with the data obtained by means of the use of other criteria of impact and eminence, acquiring values superior to .60 -significant at .001-, which confirmed that already obtained by Zusne of .72 among their data and those of the Annin, Boring and Watson's Ranking. This is a *social conception of eminence* defined, within what Carpintero calls the *context of communication*, as the degree of attention given to an author's contribution by the scientific community.

Our study's working model includes joint the *Eminence*, the variables of *Generation* and *Nationality*.

The variable *Generation* is understood according to the *Historical Method of Generations* (Ortega, 1958; Marias, 1967; Varii, 1978). Generation refers to a group of individuals differentially characterized according to certain features, acquired through social interaction, which are relevant for understanding those individual behaviours and historical and social phenomena in which they intervene (Carpintero, 1978). Generational groups do not simply succeed one another, but overlap and connect with each other, thus coinciding in the historical and social task at a different level. The movement of history is explained from the simultaneous coincidence of several generations, for each Generation has a vital sensibility supporting those attractions and rejections which drive some to innovate and others to be conservative. We accept, together with Marias (1967), that each Generation covers a 15 year period; named by the middle year, with 7 years in front and 7 behind. To discover the *decisive Generation* of a given historical period, its eponym is located -the figure representing with greater evidence essential characters of the period- and the year in which this person was thirty, or was born, is taken as the center of the Generation. Thus, we can fix a generational ladder which acts as reticle from which to contemplate historical reality. Marias considers 1856 to be the central date from which this generational series may be fixed in Philosophy, which would logically continue forward with 1871, 1886 ..., and backward with 1841, 1826 ... (Marias, 1970). This date is acceptable to Psychology, since in the fifties Helmholtz, Wundt, Dilthey, Galton, Spencer, or Sechenov, are either approaching or have just turned thirty; and, in addition, Freud, Binet, Kraepelin, Ebbinghaus, Husserl, or Dewey are born around this time. All generations appearing in a historical period are considered current generations, in the sense that they exist, but only two of them are strictly active; the others are either not yet active or have stopped being so.

How can we categorize the variable of *Nationality* for the purposes of this study? The overwhelming majority of the scientific inhabitants of the United States were *recent immigrants* and their descent, or European who were forced to emigrate into the United States when Fascism came to power.

In Europe there were many problems due to the profound change in the political geography of Europe in the 19th Century. The simplest criterion, used in some of our earlier work (Tortosa y cols., 1981, 1983, 1989, 1991; Tortosa y López-Latorre, 1991, 1992), is the author's country of birth. In this case people born in Great Britain according to various works of reference, as those already mentioned works of R.I. Watson and L. Zusne.

GENERAL CHARACTERISTICS OF THE "EMINENT CONTRIBUTORS TO PSYCHOLOGY"

As a starting point, a sample of authors with recognized impact on psychology has been taken into consideration. The list of eminent authors devised by Annin, Boring y Watson (1968) allows us to appreciate the doubtless significance of the United States throughout the History of Psychology. But this importance was, of course, not exclusive, and even more importantly, the incorporation of the States in Psychology was late. Considering the fact the continents of Asia, Africa and Oceania account for little more than 1% altogether, and that the rest of the American Continent is not represented, except for Canada, Europe doubles the United States in its number of relevant authors in Psychology (30 % against 68%).

In Europe, Germany outshines the rest. Practically a quarter of the authors were born there, Great Britain with 17% and France with 12% follow some way behind. Austria, Switzerland and Italy are next with 3% each. And also represented in order of number of researchers are the present CIS, Belgium, Holland, Hungary, Denmark, Sweden, Czechoslovakia, Poland, Norway, Canada, Spain, Japan, Yugoslavia, Australia, and South Africa. There is a clear dominance of those who present works in the English language -about 48%-. These are followed by those who use German -about 31%- and, some way behind, those who use French -almost 15%-. The remaining 6% is divided between other languages.

Watson (1978) points out that in the History of Psychology one must take into account certain relevant aspects of the histories of not only the other behavioral sciences, but also the natural and instrumental sciences (see Table 1). Psychology emerged as a discipline independent from the matrix of philosophy, with which it continues to maintain close relations. In its first moments as a discipline, Psychology was to be found with models of science which basically emulated Physiology and Physics. Likewise, an integral aspect of its history, is its mutual interpenetration with medicine - particularly psychiatry- and the other social sciences -particularly Linguistics, sociology and anthropology-. Coming back to the Ranking of Annin, Boring and Watson, only 44% of those included were defined as psychologists in one strict sense. In order to classify the other 56% of authors, numerous professional categories had to be considered: Philosophers, Physicians (i.e.,

doctors of medicine, anatomists, neurologists, hypnotists, ophthalmologists), Physiologists, Biologists and Geneticists, Social Scientists (i.e., Anthropologists, Sociologists, Educators, Theologians, Laymen), Psychiatrists and Psychoanalysts, Physical Scientists (i.e., Physicists, Chemists, Astronomer, Statistician, Mathematicians).

When studying the chronological data, it can be seen that more than half of the group was born in the range of dates occupied by the generations of 1856, 1871, and 1886, granting the scientists born in the 2nd half of the 19th Century an undoubtable role. Almost half of these authors died between 1939 and 1967, underlying the positive effect of recency of an author and his work with respect to the level of recognition granted to him by other researchers in the field (Duncan, 1976).

As for the Universities where the researchers were educated, there is a clear dominance of three European Centres (Leipzig, Berlin and Paris), as opposed to the American University of Harvard. Following these, there comes a new group of European institutions (Vienna, Cambridge and London), as opposed to the other American institutions (Columbia, Chicago and Yale). As regards to academic titles, the most represented are doctors in psychology and medicine, with more than 50%, followed by doctors of philosophy with 14%. And with respect to the great masters Wundt and his doctorates (particularly Titchener, Cattell and Münsterberg) are, without doubt, those who appear as the dominant figures in the field. These are accompanied, to a lesser extent, by William James and some of his disciples (especially G.S.Hall), G.E.Müller (particularly Katz and E.R.Jaensch), J.R.Angell (especially Watson and Carr) and K.Stumpf (particularly Köhler or Koffka) (see Tortosa y Quiñones, 1992).

Finally, it would seem necessary to make some reference to the average eminence of the generational groups. This figure has been obtained by dividing the total number of votes received by the members of the generational group, by the number of researchers of this group. In broad terms, the generations of 1781 (i.e. Herbart, Hamilton, Bell, Bessel, Th.Brown, Gauss), 1856 (i.e., Freud, Pavlov, Mead, G.E.Müller, Pearson, Kraepelin), 1796 (i.e. Weber, Fechner, J. Müller, Comte, Flourens, Braid), and 1706 (i.e. Hartley, Hume, La Mettrie, Buffon, von Haller, Euler) gain the most with averages greater than 20 points.

Table 1: General Characteristics of the *Eminents* included in the Annin-Boring-Watson's Ranking

GENERATION	PROFESSION		COUNTRY				
	Frc.	%	Frc.	%			
16th Cent	8	1,49	Psychologist	236 43,87	USA	162	30,11
17th Cent	17	3,16	Psychoanalyst	17 3,16	Ge	131	24,35
18th Cent	87	16,17	Philosopher	93 17,29	GB	87	16,17
1811	19	3,53	Physician	58 10,78	Fr	65	12,08
1826	26	4,83	Physiologist	51 9,48	Aus	19	3,53
1841	44	8,18	Biologist	21 3,90	Switz	18	3,35
1856	79	14,68	Social Sct	29 5,39	It	12	2,23
1871	115	21,38	Natural Sct	33 6,13	Varii	44	8,18
1886	104	19,33					
1901	35	6,51					
1916	4	0,74					
TOTAL	538	100,00		538 100,00		538	100,00

GENERAL CHARACTERISTICS OF THE 19TH CENTURY EMINENTS CONTRIBUTORS TO PSYCHOLOGY INCLUDED IN THE ANNIN-BORING-WATSON'S RANKING

Researchers belonging to the generations of the 19th Century [1811, 1826, 1841, 1856, 1871, 1886 (born between 1804 and 1893)] have been selected for a more detailed analysis. A total of 344 researchers, 64% of the 538 composing the population of *eminentes*.

The dominance of the authors born in the States in this group is very clear, with 27,33% of eminent authors being born there. However, as pointed out earlier, their incorporation in Psychology was late, since 78% of these are grouped in the generational groups of the end of the 19th Century (born between 1864 and 1893). The presence of these authors is apparent as from the Generation of 1841 (born between 1834 and 1848), their contribution until that period having been totally insignificant (Madden, 1974). In any case, the phenomenon observed in the general data is even more accentuated, with almost 3/4 of the scientists being born in Europe (72% % against 28%). In Europe, Germany outshines the rest, with more than a quarter of authors born there, followed by Great Britain with 14,53%, and France with 9,30%. Austria, Switzerland, the various states that made up the USSR and Italy also show significant values; and a wide group of eleventh nations show quantities inferior to 1% (see Table 2).

Nevertheless, those presenting their works in the English language remain predominant, totalling 43% of the population, closely followed by

those using German -39%- and, then, some way behind, those using French -with little more than 10%-. When comparing geographic distribution in the generational groups of the first half of the 19th Century (1811, 1826 y 1841) there is a clear dominance of those authors born in Germany and Great Britain, representing along with the French, 71% of the group -with the USA totalling just 8%-, and in the 2nd half (1856, 1871, 1886), the former three countries represent 43%, and of the States just are one third of the eminent researchers. Our data confirms the immense importance of researchers born in Europe before the birth of the discipline, and the shift of the centre of gravity of Psychology towards the States after the First World War. This was accelerated by the emigration of European researchers due to the rise of fascism to power in some continental countries (Carpintero, Peiró & Tortosa, 1989).

The undoubtable fact that we refer to increasingly more contemporary authors, modifies the professional spectrum substantially. The group maintains the recognised transfer of professionals from diverse trainings. More than half have been defined by Watson and Merrifield (1973) as psychologists in the strict sense. Various representatives from the life sciences and to a lesser extent, Philosophers, Social Scientists and Physical Scientists portray the idea. Wolman (1968) wrote that a History of Psychology that makes reference exclusively to Psychology would remained incomplete and curtailed, Psychology has always maintained close relations with other disciplinary traditions.

In respect to academic qualification, there exist few variations, since higher education titles have been increasing with the years, and along with the increase in the number of university institutions and students. As expected, Doctors in Psychology and Medicine, with more than 50%, are those which stand out, followed by those in Philosophy. As for the universities which trained these researchers there is a clear dominance of the Universities of Berlin, Leipzig and Harvard, followed by Paris, Columbia and Vienna, with three American Institutions (Chicago, John Hopkins and Cornell), and two Europeans (Göttingen and Cambridge) completing the group. Throughout the whole period three German universities have played a significant role (Berlin, Leipzig and Göttingen), with one French (Paris), one Austrian (Vienna) and one British (Cambridge), and five American (Harvard, Columbia, Chicago, John Hopkins and Cornell).

The diachronic perspective introduces various important issues. For those born between 1804 and 1849, the most important training centres are the European Institutions (Berlin, Paris, Leipzig, Vienna, Heidelberg, Edinburgo, Cambridge, Estrasburgo, Göttingen, Copenhagen, Pavia, St.Andrews, London), with only the American Institution of Harvard University being worthy of special recognition. In the 2nd half of the 19th Century the

situation changes significantly. Amongst the five most important centres of higher education, two are German (Leipzig and Berlin), but three are American (Harvard, Columbia and Chicago). The remaining centres concerned once again reveal a European predominance (Vienna, Paris, Göttingen, Cambridge, Estrasburgo, Munich and Zurich), as opposed to the three American Institutions (John Hopkins, Cornell and Clark). As for the great masters Wundt and his doctors, (especially Titchener, Cattell and Münsterberg) are those who, without a shadow of a doubt, appear as the outstanding personages. William James and his disciples follow (particularly G.S.Hall), G.E.Müller (especially, Katz, E.R.Jaensch), J.R.Angell (particularly, Watson, Carr), O.Külpe (especially, Ogden, Wertheimer) and K.Stumpf (particularly, Köhler and Koffka).

Finally we must make some sort of reference to the average eminence of the generational groups. In general terms, two groups stand out, both with average values superior to 20 points: The Generation of 1856 [1.480 points and an average of 20,55], which is that of the *managers* of Psychology today, with such distinguished figures as Freud, Pavlov, G.H.Mead, Ebbinghaus, G.E.Müller, Pearson, Bechterev, Husserl, Janet, Dewey, or Kraepelin; and the Generation of 1826, when the discipline was born, with the pioneers of the great models and researchers such as Wundt or Dilthey, Spencer or Galton, Helmholtz or Sechenov. Those which follow with an average between 19 and 20 points, are the Generation of 1841 [809 points and an average of 19,73] -i.e., Brentano, Ribot, James, Breuer, Hall, Stumpf, Sully, Romanes ...- and that of 1886 [1.669 points and an average of 19,41] -i.e. Wallon, Bühler, Hunter, Gessell, Binswanger, Pieron, Bridgman, Hull, Tolman, Rorschac, Köhler, Thurstone, Lewin ...-. And finally, the Generation of 1871 [1.817 points and an average of 17,99] -i.e. Weber, Watson, Titchener, JR Angell, Woodworth, Adler, Stern, McDougall, Thorndike, Claparede, Terman-, and the Generation of 1811 [337 points and an average of 17,74] -i.e. J.S.Mill, Darwin, Bernard, Marx, Lotze, Donders, Du Bois Reymond, Boole, Séguin- (see Tortosa y Quiñones, 1992).

Table 2: General Characteristics of the *Eminent* Included in the Annin-Boring-Watson's Ranking born between 1804 and 1893

GENERATION	PROFESSION		COUNTRY			
	Frc.	%	Frc.	%		
G. 1811	19	5,52	Psychol	176 51,16	USA	94 27,33
G. 1826	25	7,27	Psychoanal	13 3,78	Ge	90 26,17
G. 1841	41	11,92	Philos	30 8,72	GB	50 14,53
G. 1856	72	20,93	Physician	47 13,66	Fr	32 9,30
G. 1871	101	29,36	Physiol	38 11,05	Aus	21 6,09
G. 1886	86	25,00	Biol	12 3,49	Switz	12 3,49
			Social Sct	18 5,23	CEI	11 3,20
			Natural Sct	10 2,91	It	8 2,33
					Vari	26 7,56
TOTAL	344	100,00		344 100,00		344 100,00

GENERAL CHARACTERISTICS AND IMPACT OF THE 19TH CENTURY BRITISH EMINENT CONTRIBUTORS TO PSYCHOLOGY

The British constitute the 3rd great geographical core group of eminent authors born in the 19th Century (see Table 3). These are situated behind North-Americans and German -almost 54%- with about 15% of the total group, thus practically doubling those born in France. Their average eminence is certainly considerable, with an average in the 20 ranking [995 points]. One fact stands out that almost half of these (44%) have been identified by R.I.Watson as *psychologists*, followed by *biologists* (6), *mathematicians* (5) and *philosophers* (5), who together with the *life scientists* (physiologists, psychiatrists, neurologists and ophthalmologists) form the backbone of the 19th Century.

There are 3 principal criteria of eminence -stratification by judges, by space occupied in History of Psychology Textbooks, and by the number of citations received- leading to different, but complementary, approaches to the problem of *Eminence*. It could be said that the first two criteria determine the *historical classics*, while the 3rd identifies the *functional or living classics*.

Those from the former are more numerous. Using the selected Ranking of Annin, Boring and Watson (1968) it can be seen that 10 British researchers occupy the maximum level of eminence. that includes 45 researchers born in the 19th Century (see Table 3)

Table 3: Distribution of the British eminent scientists through the various generations of the 19th Century

Generation of 1811		Generation of 1826		Generation of 1841	
Name	Rank	Name	Rank	Name	Rank
J.S.Mill	27	H.Spencer	27	G.J.Romanes	25
Ch.Darwin	27	F.Galton	27	J.Ward	24
A.Bain	26	J.C.Maxwell	19	J.Sully	22
J.Esdaile	20	T.H.Huxley	18	J.H.Jackson	21
G.Boole	15	A.R.Wallace	15	J.Lubbock	16
W.Carpenter	14	E.B.Tylor	13	H.Maudsley	16
J.McCosh	13			D.A.Spalding	12
G.H.Lewes	11				

Generation of 1856		Generation of 1871		Generation of 1886	
Name	Rank	Name	Rank	Name	Rank
C.Li.Morgan	27	E.B.Titchener	27	G.Thomson	23
K.Pearson	27	W.McDougall	27	A.E.Jones	22
Ch.Sherrington	27	J.Drever	23	R.A.Fisher	20
Ch.Spearman	27	Ch.S.Myers	21	H.J.Watt	19
G.F.Stout	26	G.U.Yule	20	G.S.Brett	18
H.Head	25	W.H.Rivers	19	R.Pintner	18
H.H.Ellis	23	L.T.Hobhouse	19	G.Humphrey	17
A.F.Shand	15	W.Healy	17	J.C.Flugel	16
A.N.Whitehead	14	W.S.Gosset	13	Ch.Valentine	13
		J.H.Parsons	13	W.Brown	11

Coan y Zagona (1962) elaborated another Estimation Scale, with a panel of 194 members of the APA, who had taught History Courses, to assess the most important contributions to Psychology between 1880 and 1959. Among the 75 theorists who obtained the highest scores, there were 6 British authors: E.B.Titchener (ranking 17), W.McDougall (20), Ch.Spearman (25), Ch. Sherrington (26), F.Galton (28), and F.C.Bartlett (52). As regards the time perspective, in the decade 1880-1889 F.Galton occupies position number 6, then in the decade 1890-1899 position number 8, when E.B.Titchener occupies position 4. In the decade 1900-1909 Titchener is number 2, McDougall number 6 and Sherrington number 7. Finally, in the decade 1910-1919 McDougall is number 6 and Spearman number 8. Between the years 1920 and 1959, no British researcher appears amongst the most important in the field.

Seberhagen y Moore (1969) obtained a list of 10 *responsible*, and 10 *influential* researchers. The list was composed by gathering 91 Psychology department chairmen. With the same aim, Wright (1970) with 246 members of the APA, obtained a similar list of 10 *responsible*, and 10 *influential* researchers, who were difficult to superimpose. No British researchers appear in the lists.

Heyduck y Fenigstein (1984) acquired a group of influential scientists and works in contemporary psychology, by means of inquests carried out on psychologists already considered as eminent figures. Only Ch.Spearman with his *The Abilities of Man* (1927), W.McDougall with his *Outline of Psychology* (1923), and D. Broadbent with his *Perception and Communication* (1958) represent the British contingent included in our sample.

Zusne y Dailey (1982) reproduced the classic work of Annin, Boring y Watson investigating the space occupied and references made in 16 History of Psychology Textbooks. Among the 150 first names in the new Ranking, a good number of British born researchers appear: Titchener, McDougall, Galton, Darwin, JS Mill, Bain, Spencer, Ward, Morgan, Spearman, Romanes, Sherrington, Stout, Myers, Watt, Hobbhouse, Rivers, Sully and Pearson.

Tortosa and cols. (1983) previously reproduced the same classic study, as regards to the number of citations, using the data of the SSCI. Among the 150 first names in the new Ranking, a good number of British born researchers also appear: JS Mill, Pearson, Whitehead, Spencer, Galton, Darwin, Spearman, McDougall, Sherrington, JH Jackson, Head, Titchener, Fisher, Maxwell, Huxley, Tylor and Yule. We have obtained a very different view. In this case the lack of the most significant representative authors in Animal and Comparative Psychology (i.e., Morgan or Romanes), and the lack of the leading luminaries of London (i.e., Sully) and of Cambridge (i.e., Ward and Myers) Psychology at the turn of the 19th Century, was notorious as is the lack of the authors of the most scholarly textbooks ever produced by a British psychologist [i.e., Sully's *Outlines of Psychology* (1884), the very well-known Ward's article in the *Encyclopaedia Britannica* (ninth ed.1885) and the *Psychological Principles* (1918), the Stout's *Manual of Psychology* (1898), or the Myers's *Textbook of Experimental Psychology* (1909)] and the lack of the most outstanding *official founders* of the British psychological tradition (i.e., Bain, Rivers, Ward, Stout, Myers, Sully ...).

In any case only 5 names appear in the 3 aforementioned criteria of eminence: W.McDougall, Ch.Spearman, F.Galton, E.B.Titchener and Ch.Sherrington. But taken in their entirety, they provide empirical evidence of a definite image of the British tradition. This, to a great extent, can be validated by other specialized studies (i.e., Hearnshaw, 1964; Foss, 1969,

1976; Eysenck, 1987). If we analyse the impact of the members of the different generational groups, measuring in terms of the number of citations received, taking only into account the group of the 20 most cited authors in each generational group, we can discover the most important influences shed by the researchers born in 19th Century (see Tortosa & Quiñones, 1992). In our case, we only consider the British born scientists included in these groups.

The 6 most cited British authors (between 1.001 and 5.000 references) from this 6 generational groups (120 different authors) are: J.S.Mill -representative of a associationist psychology and of a positivistic and utilitarian ideology-, Ch.Darwin -pioneer of the evolutionary theories-, F.Galton -one of the founders of the field of individual differences in psychology and contributed basic statistical concepts, in short the initiator of psychometrics-, H.Spencer -with his theory of evolutionary association, was one of the pioneers of the later so-called "social darwinism" and of the paradigm of adaptation-, K.Pearson -continued Galton's work, particularly in the field of heredity and eugenics and was one of the fathers of modern statistics-, and the organismic philosopher N.Whithead. Between 501 and 1.000 references appear: Huxley -applied the evolutionary theory to the human species and the human mind-, Maxwell -famous for his work in physics and electricity-, JH Jackson -the foremost figure of 19th Century neurologists (Hearnshaw, 1964)-, Head and Sherrington -the great representatives of the Cambridge physiological tradition-, Spearman -the leadership of the *London School*-, McDougall - the initiator of the *Hormic* psychology-, Titchener - the initiator of the Structuralism- and the eminent statistician Fisher. Some way behind comes the considerable group of very well-known authors as Ellis, Morgan, Sully, Ward, Thomson, Brown, Stout, Rivers, Myers ... We can see a list with the most cited works through the generational groups in Table 4.

DISCUSSION AND CONCLUSIONS

The progress of psychology in Great Britain has not taken place behind closed frontiers and has been very dependent on advances made elsewhere. "Like many others from Great Britain in those great decades of the German Universities, J.Ward crossed the Channel to complete his training. Ward was followed by Sully and McDougall to Göttingen, Spearman, who had links with Leipzig and Würzburg, as well as Göttingen, became almost as German in some ways as Titchener. The Watt who worked in Würzburg with Messer, Ach and Bühler, later headed the Department of Psychology at Glasgow" (Drever, 1965). We can't forget this period of German influence in the emerging psychological field, influences that in Great Britain tended to come from outside Leipzig. But a purely British succession exists and has given British psychology features which differentiate it from its counterparts across the Channel. As Hearnshaw

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(1964) said, "we commonly tend to underestimate the important role which British psychologists and scientists have played in shaping the development of psychology, particularly in the early days" Writing in 1870, the French psychologist Ribot held that "since the time of Hobbes and Locke England has been the country which has done most for psychology". Leadership soon afterwards passed on to Germany. But it does well to remember that psychology is not, as it is sometimes considered to be, something alien and unBritish, but in its roots a largely native growth.

As Sidgwick (1892) or Drever (1965) wrote, English Psychology beheld a peculiarity distinguishing it from other national traditions, the strong presence of the *mental philosophy*. This approach constituted the foundation upon which specifically psychological construction was based, and to a certain extent, it opposed the incorporation of certain examinations of mental problems through laboratory techniques. Additionally, there were other institutional problems, which were to explain the delay in the institutionalization of psychology in Great Britain being one of the most outstanding the reluctance within the British academic community to embrace new approaches and ideas (Hearnshaw, 1964. Danziger, 1982). In consequence, British Experimental Psychology progressed slowly in the early 20th Century.

Table 4: The most cited work in SSCI (1966-1985) of the most cited british scientists through the various generations of the 19th Century

J.S.Mill	- A System of Logic, Ratiocinative and Inductive (1843)
Ch.Darwin	- The expression of the Emotions in Man and Animals (1872)
A.Bain	- The Senses and the Intellect (1855)
W.B.Carpenter	- Principles of Mental Physiology, with their applications to the Training and Discipline of the Mind and the Study of its Morbid Conditions (1874)
G.H.Lewes	- Problems of Life and Mind (1874-1875)
J.McCosh	- The Scottish Philosophy, biographical, expository, critical, from Hutcheson to Hamilton (1875)
Esdaile, J.	- Hypnosis in medicine and surgery (Mesmerism in India) (1846)
Boole, G.	- An investigation of the laws of thought on which are founded the mathematical theories of logic and probabilities (1854)
H.Spencer	- Principles of Psychology (1855)
F.Galton	- Inquiries into human faculty and its development (1883)
J.C.Maxwell	- A treatise on electricity and magnetism (1873)
T.H.Huxley	- Collected Essays (1893-1894) [Evidence as to man's place in nature (1863)]
E.B.Tylor	- Primitive Culture (1871)
A.R.Wallace	- The Malay archipelago (1869)

J. H. Jackson	- Selected writings (1931) [On the nature of the duality of the brain (1874)]
H. Maudsley	- The physiology and pathology of mind (1867)
G. J. Romanes	- Animal Intelligence (1882)
K. Pearson	- The grammar of science (1892)
A. N. Whithead	- Science and the modern world: Lowell Lectures (1925)
Ch. Spearman	- The abilities of man: Their Nature and measurement (1927)
Ch. Sherrington	- The integrative action of the nervous system (1906)
H. Head	- Aphasia and kindred disorders of speech (1926)
W. McDougall	- An introduction to social psychology (1908)
EB Titchener	- Experimental Psychology: A manual of laboratory practice (1901-1905)
GU Yule	- (& M. Kendall) An introduction to the theory of statistics (1911)
R. Fisher	- Statistical Methods and Scientific Inference (1959)

In the United Kingdom, as in most European countries, psychology originally developed in the departments of philosophy and medicine. Before 1832, there were only 2 universities in the whole England and 4 in Scotland, being little more than an intellectual oasis for the upper classes. Four provincial universities were then founded in the remainder of the Century, and another six in the 1st decade of the 20th Century. But during the latter half of the 19th Century and the first half of the 20th Century, British Universities were still few in number and conservative in outlook. It is impossible to understand British psychology unless one takes into account that British society is essentially feudal, and that in this feudal society the Universities of Oxford and Cambridge represented the principal reservoir of establishment manpower. Under the threat of being surpassed by these universities of the lower classes and of more technological orientation, Oxford and Cambridge began to work in new Sciences, and during the process, they recovered their intellectual preeminence as well as social (Armytage, 1955). This process was still under way at the end of the 19th Century; both philosophy and physiology were still based outside British Universities; for example, neither Spencer, nor Stuart Mill possessed academic chairs. Physiological research was basically practised by doctors working in independent hospitals (Flexner, 1925). From the physiologists point of view, fighting for his place in the symbols of conservatism, the academic philosophy taught there must have seemed an old-fashioned and undoubtedly privileged field. But the factor of mobility was lacking; it was still possible to acquire greater prestige in philosophy or physiology outside of the universities. Despite there being all the prerequisites necessary for the rapid germination of the scientific psychology, the non-university tradition provided a safety valve, letting the pressure escape which could have led to the innovation of a new psychology (Ben-David y Collins, 1990). Therefore, it could not take root, and it was to take years to reach a solid structure (Hearnshaw, 1964). Britain had achieved fundamental and revolutionary discoveries in the natural sciences and humanities for a number of centuries;

however, these were often made by individuals working independently of academic institutions. Initial progress in psychology followed a similar pattern.

This last feature of British science, "the virtual independence of eminent scientists from the constraints of academic institutions, played an essential role in shaping the unique character of psychology in the United Kingdom. By way of contrast, in Germany and the United States science was institutionalized creating the conditions for schools to emerge. The fact that British Scientists were free to pursue their own personal and sometimes idiosyncratic interests gave psychology in the United Kingdom its own, often eccentric, stamp" (Donald & Canter, 1987).

The beginning of this Century showed an England upturned by a social and economic crisis which had marked the end of the Victorian era. Furthermore, the universities maintained a strong conservative perspective and a philosophical ambiance which was still rather idealistic, and paying little attention to psychology. Drever (1965) attributes the strange paradox of British psychology's failure to pursue the associationist tradition to Ward who strongly pursued the German Kantian tradition, and to Stout. These two influences produced a more philosophical, theoretical, holistic and qualitative orientation. But, despite this they were still to provide the decisive steps for an institutionalization which was to reach a more certain period after the 1920's. This is well portrayed by the fact that when the First World War began, experimental psychology scarcely had any institutional bases. Psychological laboratories existed in the Universities of Cambridge, Londres, Manchester, Edimburgo and Glasgow, but they were not comparable in terms of neither equipment, nor in systematic studies, or in results with those existing in Germany or the USA (Peiró y Carpintero, 1978). In this sense, Danziger (1982) pointed out the slow and troublesome development of experimental psychology during the last third of the 19th Century. This, he attributed to the conservatism of the universities, the resistance of philosophy confronted to the social sciences -especially sociology and psychology from a positivistic point of view-, a certain to be out of step with the studies of physiology and medicine, and the delayed establishment of psychological laboratories and the organization of science.

Sidgwick, in the inaugural soeech of the 2nd International Congress of Psychology (Londres, 1892), commented how he considered England as having failed in the development of experimental psychology, if *experimental* was to be understood as research under artificial conditions, with the objective of converting psychology into a precise science through the experiment and the measure. But it cannot be considered such a failure if the term *experimental psychology* is interpreted in a wider sense. This is including the science of the mind based on the induction of the facts observed, an approach which had been practised in the British Isles for

Centuries. In our results, the empiricist-associationist tradition, together with the works of various great physiologists, Spencer and Galton, and the evolutionist theory, constitutes the starting point of British Contemporary Psychology. These influences produced a experimental-analytic, quantitative and practical orientation more interested in individual differences and their measurement. In consequence, British Experimental Psychology was to progress slowly as from the first years of the 20th Century, and in a way which was highly detached to that on the Continent. Furthermore, the British interest in individual differences offered a certain opposition to Wundtian psychology, constituted a counterbalance to Wundtian Psychology, and prepared the way for an applied psychology, the contribution to psychological statistics, psychometrics and educational psychology was very important (Drever, 1965).

Those that could not suffer such limitations, as E.B.Titchener and W.McDougall, fled to other countries in search of broader horizons for their work. Others had to accept to become professors of psychology while holding a chair of philosophy or logic. This situation is clearly reflected in the correspondence between the Englishman Titchener, already dominating a good part of the North-American scene of research, and Hunter who tried to establish the first laboratory of experimental psychology in Australia. Titchener pointed out: "However, I do not think that they completely realise the delay. Even in Oxford, in my times, there were comparatively few professors who knew Germany and the german training was considered with suspicion. A strange decision was adopted in Cambridge. The course of psychology was replaced with two new courses. One on the physiology of senses for the studies of physiology ... and the other on experimental psychology for the studies of the mental and moral sciences... This separation of these chapters of psychology is totally absurd. I am afraid that it will negatively influence the teaching of matters which are truly psychological" (15-7-1907), and he continued: "the regrettable with this slow movement, is that, probably a whole Generation will be lost with no sign of scientific production in psychology" (29-10-1909) (Cfr. Brown y Fuchs, 1971). It is clear, from all these facts, that in the United Kingdom a philosophical, non-technical psychology preceded the creation of an institutional network supporting the new scientific one.

As Eysenck (1987) said, prior to the Second World War there were very few departments specially devoted to psychology -excluding the well-known departments at the University College or at the University of Cambridge-. In the USA, it was the First World War that put "psychology on the map", and led to a tremendous increase in the number and size of departments; in the United Kingdom it was the Second World War that fulfilled the same function.

Can it be said if there is anything very specific about British Psychology that sets it apart from psychology in the USA, or Canada, or Europe? Probably one of the most important reasons for the marked difference between British psychology and psychology in other countries lies in the fact that in Britain psychology has been influenced on the philosophical side by a series of thinkers, often referred to as associationists, who were rather empirically oriented. British psychology may be characterized by its empirical approach, strongly coloured with evolutionism, to the study of organisms. Their natural abilities and faculties, including intelligence, have been seen as the main tools for adaptation of the organism has at its disposal. The second reason lies in the fact that England was certainly the birthplace of psychometrics and the IQ testing. This tradition goes back to Galton and his collaboration with Karl Pearson, with the former developing theories of intelligence, genetics and eugenics, and the latter translating of Galton's statistical ideas into mathematically acceptable formulae as well as carrying out original work and editing newly founded biometrical journals. These men were followed by Charles Spearman, who in turn was succeeded by Sir Cyril Burt. Also very important is Sir Ronald Fisher, who plays an important role in the development of psychometric techniques such as correlational studies, factor analysis, and analysis of variance widely used all over the world. This is probably the most specific British contribution to psychology that one can point to. In short, the situation might be summarized by saying that the mainstream of British Psychology is concerned with trying to explain behavior and experience as objectively as possible and with using its techniques and notions to attempt to solve applied problems.

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