Memory disorders
in psychiatric practice

Edited by
German E. Berrios
Department of Psychiatry, University of Cambridge, UK
and
John R. Hodges
MRC Cognition and Brain Sciences Unit, Cambridge, UK

CAMBRIDGE
UNIVERSITY PRESS

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge, United Kindom

CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Cambridge CB2 2RU, UK http://www.cup.cam.ac.uk
40 West 20th Street, New York, NY 10011–4211, USA http://www.cup.org
10 Stamford Road, Oakleigh, Melbourne 3166, Australia
Ruiz de Alarcón 13, 28014 Madrid, Spain

First published 2000

Printed in the United Kingdom at the University Press, Cambridge

Typeface Adobe Minion 10.5/14pt. *System* QuarkXPress™ [SE]

A catalogue record for this book is available from the British Library

Library of Congress Cataloguing in Publication data
Memory disorders in psychiatric practice
edited by German E. Berrios and John R. Hodges.
p. cm.
Includes index.
ISBN 0 521 57671 7 (pb)
1. Memory disorders. 2. Neuropsychiatry. I. Berrios, G.E.
II. Hodges, John R.
[DNLM: 1. Memory Disorders. 2. Amnesia. 3. Dementia.
4. Neuropsychology. WM 173.7 M5326 2000]
RC394.M46M466 2000
616.8′4–dc21 99-32281 CIP
DNLM/DLC
for Library of Congress

ISBN 0 521 57671 7 paperback

Contents

1

Historical aspects of memory and its disorders

German E. Berrios

Historical analysis can contribute to the understanding of memory complaints and disorders (e.g. Burnham, 1888–89; Berrios, 1985a, 1990, 1992b, 1995; Bulbena & Berrios, 1986; Levin et al., 1983), particularly if it takes into account their *psychiatric dimension.* At a surface level, history may identify those current concepts that have developed out of the clinical observation of specific patients. At a deeper level, it can identify the theoretical and social frames within which those observations were made. In general, history will inform the memory researcher of the hidden conceptual stipulations (Edgell, 1924; Schacter, 1982; Simondon, 1982) governing the nosological status of phenomena such as fugues (Hacking, 1996), déjà vu (Berrios, 1995), and the 'memory failure' of schizophrenia (Rund, 1988; Kirkpatrick et al., 1986).

Using the criterion of 'amount of experimental work', Tulving (1983) called the period before Ebbinghaus the 'dark ages' in the history of memory.[1] In the same vein, Hacking (1995) proposed that 'the sciences of memory were new in the latter part of the nineteenth century' (p. 198) but as Murray (1976) has shown, memory and its disorders were in fact frequently discussed during and before this period.[2] Interestingly enough, these debates also focused on narratives style, laws of association, and content of memory,[3] features which until recently had been neglected. To be sure, 'models of memory' during these earlier periods are *different* from what Ebbinghaus (1885) was to propose towards the end of the century (e.g. Shakow, 1930; Postman, 1968; Caparrós, 1986), and from what Tulving (1983) would consider as 'scientific'.

In general, two approaches run parallel during this period: a quantitative one (as per Ebbinghaus) which has been well studied by historians and which, at the time, rarely influenced clinical practice; and a qualitative one, born out of (and used in) clinical observation. This chapter will only deal with the history of the latter, particularly with the contribution of nineteenth-century alienists.[4]

Pre-nineteenth century

From earlier times, man's ability to conserve, retrieve (or lose!) information about himself and/or the world has been the subject of of wonder (Simondon, 1982; Carruthers, 1990; Geary, 1994). Classical writers identified two aspects of memory: 'conservation' and 'retrieval'. The former implied a 'three-dimensional space' associated with metaphors such as 'storing', 'containing', 'tracing' and 'engraving'. After Descartes, these spatial metaphors became grafted upon his concept of *res extensa* (extended substance) and therefrom the capacity to 'store or conserve' was explained in 'somatic or 'organic' rather than in psychological terms. On the other hand, the capacity to 'recollect' or 'retrieve' was figuratively described in terms of the action of 'looking for', 'searching' and 'recognizing'; from the start, this analogy demanded the associated presence of concepts such as self, intentionality, effortful activity, and duration.[5]

The metaphors of 'storing' and 'looking for' remain popular in Western writings on memory (Koriat & Goldsmith, 1996): for example, the 'sketch pad' analogy (Baddeley, 1986: p. 71) is a version of the space-metaphor; and the 'activity of the self' model is represented by the currently popular view that memory is about searching, reconstructing and 'narrating'.[6] A crucial question for the conceptual historian is whether these two ancient metaphors still retain some heuristic capacity (Hesse, 1966) or must be replaced.

Classical models and metaphors

Aristotle

References to aspects of 'memory' can be found in the Old Testament, the Babylonian Talmud, and Hesiod's Theogony.[7] However, it was Aristotle who, by distinguishing 'conservation' (*mneme*) from 'recollection' (*anamnesis*),[8] set the conceptual agenda:

> Memory of the object of thought implies a mental picture. Hence it would seem to belong incidentally to the thinking faculty, but essentially to the primary sense-faculty. Hence memory (*mneme*) is found not only in man and beings which are capable of opinion and thought, but also in some other animals . . . (Aristotle, 1908: p. 293).

Recollection, on the other hand, can only be a human activity for it required awareness and logical thought.[9]

Some of Aristotle's assertions are clinically meaningful; for example, when dealing with the 'referential' aspects of the mental act involved in 'recollection', he states:

> if there is in us something like an impression or picture, why should the perception of just this be memory of something else and not of itself? For when one exercises his memory

> this affection is what he considers and perceives. How then does he remember what is not present? This would imply that one can also see and hear what is not present. But surely in a sense this can and does occur. Just as the picture painted on the panel is at once a picture and a portrait, and though one and the same, is both, yet the essence of the two is not the same, and it is possible to think of it both as a picture and as a portrait, so in the same way we must regard the mental picture within us both as an object of contemplation in itself and as a mental picture of something else . . . (p. 297).

Aristotle also analysed the 'awareness' involved in the recollection process, i.e. how does one know that a given mental content is a memory and not something experienced for the first time?:

> sometimes we do not know, when such stimuli occur in our soul from an earlier sensation, and we are in doubt whether it is memory or not. But sometimes it happens that we reflect and remember that we have heard or seen this something before. Now, this occurs whenever we first think of it as itself, and then change and think of it as referring to something else . . . (p. 297).

Aristotle's effort to differentiate between the experience itself and the factors required to convert it into a memory, is reflected in the popular nineteenth-century view that déjà vu and confabulation were 'first-time experiences' which, due to the presence of an anomalous 'memory-converting' factor, were mistaken for 'real' memories.[10] Aristotle (1908) might have been partially based on clinical observation:

> The opposite also occurs, as happened to Antiphenon of Oreus, and other deranged people (*egistamenois*); for they spoke of their mental pictures (*fantasmata*) as if they had actually taken place, and as if they actually remembered them . . . (p. 297).

Whether Aristotle is referring here to hallucinatory experiences or to delusions of memory (déjà vu) is difficult to tell, although the drift of the text suggests that it was the latter. Lastly, the Greek philosopher also dealt with the mechanisms that facilitate recollection, and in doing so he managed to formulate the 'laws of association'.

Augustine and medieval views

Together with *Intellectus* and *Voluntas*, *Memoria* was for Augustine,[11] a 'faculty of the soul'. It also was the repository of archetypal ideas and information that made man the carrier of divine truths. In fact, it contained all the ordinary data of experience including the epistemological matrix of all knowledge. Echoes of this Platonic view reappeared in Descartes, and later in Jung.

There were three Medieval concerns on the nature of memory: was it a *sense* or a faculty? How valid was its division into intellective and sensitive? Where was it

located in the brain? The first two questions intended to reconcile Platonic and Aristotelian views. For example, St Bonaventure's solution is typical for the period:

> Memory has three meanings: (a) faculty that receives and stores sensations from the past, (b) faculty that receives and stores intelligible things, and (c) it preserves intelligible things in an abstract manner which is independent from time markers, that is, it can be considered as a faculty dealing with innate intelligible forms (quoted in Wéber, 1990: p. 1591).

with regard to localization, Bernard of Gordon's views are representative: '[disorders of memory] result from corruption of the posterior part of the brain . . . and that forgetting sometimes occurs in madness' (Gordon, 1495: Chapter xiii, p. jiij). More than a century later, Father Thomas Wright (1630) was still asking:

> How we remember? In what part of the braine resideth the formes fit for memory? How we forget? What helpeth and hindereth Memory, and by what manner? Why doth memory faile in old men? How can possibly be conserved, without confusion, such an infinite number of formes in the Soule . . .? (p. 304).

Descartes

As Hall (1972) has rightly commented: 'Historically, Descartes's theory [of memory] may be understood as a corpuscularized version of explanations set forth by Scholastic philosophers and Renaissance anatomists who in turn had elaborated Greek ideas' (p. 88). The Cartesian version entailed a 'physiological' account in terms of which memory was a 'fifth' stage in cognition (the first four were 'object, retinal image, brain lining, and spirits leaving the gland'):

> thus when the soul desires to recollect something, this desire causes the gland, by inclining successively to different sides, to thrust the spirits towards different parts of the brain until they come across that part where the traces left there by the object which we wish to recollect are found; for these traces are none other than the fact that the pores of the brain, by which the spirits have formerly followed their course because of the presence of this object, have by that means acquired a greater facility than the others in being once more opened by the animal spirits which come towards them in the same way . . .' (Descartes, 1967: p. 350).

Thus, for Descartes, the laying down of memory traces was *not* a passive act; hence recall could improve with repetition. As far as the traditional question of the relationship between memory and sensitive and intellective forms was concerned, Descartes distinguished between 'the recall of universals which is a function of intellectual memory, and the recall of particulars which is a function of corporeal memory' (Clarke, 1982: p. 29).

Locke

Returning to Aristotelian associationism, John Locke (1959) suggested mechanisms redolent of what is called 'semantic processing' and 'time-tagging': 'this laying down of our ideas in the repository of memory signifies no more than this, that the mind has a power in many cases to revive perceptions which it once had, with this additional perception annexed to them, that it has had them before' (Book II, Chapter X). Locke also felt that emotions helped to fix the ideas in the mind, but was ambivalent about the mechanisms involved in the laying down of memory traces. Indeed, on occasions it does seem as if he resorts to the Cartesian explanation.[12] English writers of the eighteenth century, such as David Hartley (1834), kept alive the physiological explanation, and it is by this channel that it arrived into the nineteenth century.

The nineteenth century

During the early nineteenth century, French philosophy of mind is best represented in the work of Laromiguière[13] and Royer-Collard[14] who believed that memories had first to be entertained in consciousness: 'the objects of consciousness are the only objects of memory. Properly speaking, we never remember anything but the operations and diverse states of our minds . . .' (Janet & Séailles, 1902: p. 158). This view was taken up by Gratacap (1866) and Ravaisson (1885) who developed Laromiguière's 'active' model of the mind. Echoes of this view, combined with the English ideas that he so much admired, can be found in Ribot (Gasser, 1988).

Virey (1819) defined memory as: 'the faculty that conserves in the spirit the impressions and images of objects obtained via sensations, and that recollects these impressions in the absence of the object . . .' (p. 278); according to this French writer, amnesia resulted from drunkenness and sexual abuse. Louyer-Willermay (1819) subdivided both dysmnesia and amnesia into idiopathic (independent from any known cause) and symptomatic (secondary to another disease) (p. 303); most importantly, he described the 'law of regression', later attributed to Ribot,[15] and proposed that in the elderly the typical memory deficit was forgetting of recent events and a good recollection of remote ones (p. 307). His views survived in the work of Bouillaud (1829) and Falret (1865).

Views on memory in England were inspired by associationism, as can be seen in the work of Fearn, Mill and Bain. Fearn (1812) wrote:

> if we remember a thing brought in by association, this affection is, notoriously, forced upon us; but, if we try to recollect a thing, we will to put ourselves in this and that mood, or posture of thought, until at length the thing strike us by the medium of association (p. 277).

Nonetheless, like Descartes he believed that an act of specific attention was needed for memories to be laid down in the first place (p. 274). James Mill (1869), in turn, wrote: 'In memory there are ideas, and those ideas both rise up singly, and are connected in trains by association' (p. 328). His once secretary, Alexander Bain (1874) expressed a more physiological view: 'for every act of memory, every exercise of bodily aptitude, every habit, recollection, train of ideas, there is a specific grouping, or co-ordination, of sensations and movements, by virtue of specific growths in the cell junctions' (p. 91). After the middle of the century, this mechanistic model was reinterpreted in evolutionary terms, first by Herbert Spencer (1890), and then Lewes (1877) and Hughlings Jackson.[16]

Hering and 'organic memory'

Under the influence of Evolution theory, views on memory began to change after the 1870s. For example, this is the case of Hering (1870), who in his seminal lecture 'Memory as a universal function of organized matter' (delivered before the Imperial Academy of Science at Vienna in 1870) made two crucial points: (a) 'memory is a function of brain substance whose results, it is true, fall as regards one part of them into the domain of consciousness, while another part escapes unperceived as purely material processes . . .'; and (b) 'we have ample evidence of the fact that characteristics of an organism may descend to offspring which the organism did not inherit, but which it acquired owing to the special circumstances under which it lived . . . an organized being, therefore, stands before us a product of the unconscious memory of organized matter . . .'. These views influenced Ribot (Gasser, 1988), Freud (Otis, 1993), Semon (Schacter et al., 1978) and others interested in the concepts of 'engram' (Gomulicki, 1953; Schacter, 1982) and of organic memory (Augier, 1939). Thus, Hering not only developed the view that matter (brain sites) are important to memory but also introduced a Lamarckian mechanism (Lamarck, 1984; Jordanova, 1984).

The timing of the Vienna lecture was right: both evolutionary theory (Mayr, 1982) and degenerationism (Génil-Perrin, 1913; Saury, 1886; Talbot, 1898; Thompson, 1908) were in need of a mechanism to explain how new information might be incorporated into the genetic make-up of a species (Ribot, 1906). Hering's views were not lost to those working in the field of memory: nature had provided brain sites for memory, and these needed investigating. Encouraged by the view, popular at the time, that disease was a natural laboratory to investigate how healthy mechanisms break down, soon enough all manner of psychiatric patients were investigated for memory deficits.

In 1880, Samuel Butler published his 'Unconscious Memory' including a translation of Hering's lecture. Not everyone agreed, however, with the extrapolations he suggested and in a scathing review, Romanes (1880) said:

> This view, in which Mr Butler was anticipated by Prof. Hering, is interesting if advanced merely as an illustration; but to imagine that it reveals any truth of profound significance, or that it can possibly be fraught with any benefit to science, is simply absurd.

Ribot, Paulhan and Bergson

During the 1880s, two great French psychologists contributed to the development of the notion of 'organic' memory. In the first edition of his *Disorders of Memory*, Ribot (1882), the best known of the two, included a chapter on 'memory as a biological fact'.[17] He inspired many. For example, Richet's (1886) views on the origins and modalities of memory, on its organic basis, and on the distinction between memory of 'fixation' and 'evocation'; to these, van Biervliet (1902) added a third type, 'memory of identification'. The 'organic' view continued well into the twentieth century in the work of Piéron (1910), Dugas (1915, 1917), Semon (1908, 1909),[18] and Rignano (1926).

Criticizing the 'intellectualistic' approach, Frédéric Paulhan (1904) emphasized affectivity, as expressed in his great book on 'affective or emotional memory'. By the latter he meant traces or footprints 'left in the spirit by sentiments' (p. 5) for 'an emotion may leave on the spirit traces which will not show themselves as emotional acts but as phenomena which are unconscious, automatic, and intellectual . . .' (p. 6). On this he was following Ribot's (1896) *Psychologie des Sentiments* where the great French psychologist had dedicated a chapter to 'la mémoire affective'. This was harshly criticized by Titchener (1895) who challenged Ribot to offer one example of 'pure' affective memory in which the emotion be revived 'as such'.[19]

Although not a psychologist, Henri Bergson's views on memory were important for a generation.[20] He distinguished two types: one consisting of sensory mechanisms or habits fixed in the body of the organism and common to all animals; the other, or 'pure memory' was only possessed by man, registering the multitude of images that was his life. Confronted with the argument that it would be uneconomical to store a separate image for each variation, he accepted the view that memory traces needed to be written onto the brain in a 'schematic form'. The brain was not a mechanism for remembering but for forgetting, for otherwise all memories would appear at the same time; in the human, the role of memory mechanisms was to direct him to the future (Bergson, 1911).

Janet, Williams and Wundt

The latter part of the nineteenth century is well endowed with writers on memory.[21] For example, Pierre Janet (1889) suggested that studying memory changes in sleepwalkers threw light on psychological function in general (pp. 83–145). Events occurring during sleepwalking might not be recollected during wakefulness but were retrieved in the next sleepwalking episode. This was due to

the fact that memories were associated (as in state-dependent learning) to particular levels of awareness (Vincent & Boucharlat, 1989). Janet (1909) also dealt with hysterical amnesia (pp. 39–63); and later with the relationship between time and memory (Janet, 1928).

William James (Feinstein, 1984; Perry, 1936) differentiated between 'primary' (or sensory) and 'secondary' or 'memory proper'. The latter was 'the knowledge of a former state of mind after it has already once dropped from consciousness; or rather it is the knowledge of an event, or fact, of which meantime we have not been thinking, with the additional consciousness that we have thought or experienced before' (James, 1890: p. 648). Memories were not only carried in a 'dating of the fact in the past. It must be dated in my past' (p. 650). Both retention and reminiscence were based on the 'law of habit in the nervous system, working as it does in the "association of ideas" ' (p. 653). Hence 'being altogether conditioned on brain-paths, its excellence in a given individual will depend partly on the number and partly on the persistence of these paths' (p. 659). James agreed with Ebbinghaus' efforts to measure verbal memory, and believed that aphasia was a good example of memory loss.

Wilhelm Wundt (1897) considered memory as a 'complex intellectual function': 'various different functions connected with the process of recognition and remembering are all included under the name "memory". This concept, of course, does not refer to any unitary force, as faculty-psychology has assumed . . .' (pp. 224–47). Wundt used the term memory infrequently and his broader 'cognitive approach' differed from that propounded by Ebbinghaus. As Scheerer (1980) has stated: '[this] should [make] him more attractive to modern theorists'.

Ebbinghaus and measurement

The evaluation of clinical cases required measuring instruments; the problem then was that it was not altogether clear whether tests developed for the study of memory in 'normal subjects' were of use in disease. In medicine, the view that the normal and the pathological were discontinuous was already popular during the middle of the nineteenth century (Canguilhem, 1966), and led to a 'two-tier' psychometric tradition (Bondy, 1974), namely, special instruments were created to measure certain functions in disease. However, Hering's view that in the field of memory there seemed to be a continuity, led to the use of tests for normals in the clinical population.

Testing subjects with 'memory' disorders, however, was a sobering experience in that many simply did not fit into the then conventional 'one-storage' model of memory put forward by Ebbinghaus and others. The understanding of paramnesia, false recognition, déjà vu, confabulation, delusions of memory, and some specific amnesic syndromes (the sort of phenomena described by Kraepelin,

1886–87; Pick, 1903; Bernard-Leroy, 1898; Lalande, 1893; Dugas, 1894a, b; Korsakoff, 1889; Rouillard, 1885, etc.) required more than a 'retention mechanism'. Their irreducibility to simple memories caused, at the time, theoretical consternation.

On the other hand, there were also mnestic clinical phenomena amenable to conventional analysis, and one of these was the memory deficit of dementia. Noticing this, Ribot (1882) soon used dementia to illustrate the working of his 'law of dissolution' (first described, in fact, by Louyer-Willermay, 1819): 'to discover this law it is essential that the progress of dementia should be studied from a psychological viewpoint' (p. 117). Ribot decided to deal with dementia as a 'syndrome', regardless of aetiology: 'physicians distinguish between different kinds of dementia according to causes, classing them as senile, paralytic, epileptic, etc. These distinctions have no interest to us. The progress of mental dissolution is at bottom the same . . .' (p. 117). This view is typical for the period. In England, Shaw (1892) stated 'sometimes the existence of dementia is only shown by loss of memory or loss of energy and there are no positive signs of acute disturbance . . .' (p. 348). The testing of memory, however, depended upon the making of certain assumptions to be discussed presently.

Memory testing à la Ebbinghaus (1885), Bourdon (1894) or Jung (1905) was based on the assumption that quantification captured more information than qualification. That by the turn of the century this view felt reasonable, suggests that certain conceptual changes had already taken place; one such had been brought about by the psychophysical approach of Weber and Fechner, the measuring of audition by Hering, and of reaction times by Donders.[22] On the other hand, the quantification of psychological events was not welcomed by everyone, and it formed part of the célèbre debate between Dilthey[23] (1976) and Ebbinghaus (Caparrós, 1986: pp. 177–205).

In his history of mental testing, Kimball Young (1923) identified four quantificatory strands in nineteenth-century psychology: psychophysics, the study of difference limens, and mental and physiological measurement. As acknowledged by Ebbinghaus (1885), all strands are reflected in the measurement of memory:

> in the realm of mental phenomena, experiment and measurement have hitherto been chiefly limited in application to sense perception and to the time relations of mental processes . . . we have tried to go a step further into the workings of the mind and to submit to an experimental and quantitative treatment the manifestations of memory . . ..

Analysis of the large arrays of numbers generated by the new measurements required the help of statistical techniques that were not available at the time. Ebbinghaus (1885) was aware of this and had to make do with using 'constant

averages', 'the law of errors', and 'probable error'. He, in fact, believed that 'mental events' were beyond the reach of quantification: 'the persistent flux and changeability of mental events do not admit of the establishment of stable experimental conditions' . . . 'psychological processes are not susceptible to measurement and enumeration'. Hence he used proxy variables such as 'time and number of repetitions' of nonsense syllables given to subjects to learn.

Social frames

To a large extent, research into memory remains governed by the categories of 'mneme' and 'anamnesis'. During the late nineteenth century, the former encouraged a quantitative and mechanistic approach whose testing techniques (e.g. the memorizing of nonsense syllables as per Ebbinghaus) became gradually disconnected from real life situations. However, 'anamnesis' was meant to deal with 'recollecting the past' and with what nowadays might be called 'every day or real world memories' (Cohen, 1996). The mnestic complaints on the basis of which nineteenth-century alienists built the clinical sciences of memory pertained to failures of anamnesis. This explains why the clinical study of amnesia, hypermnesia, dysmnesia and paramnesia often required that social and psychological context be taken into account. Psychoanalysis was to follow a similar approach which, by assuming that everything was stored, made memory disorders into problems of selective forgetting.

Fin de siècle redefinitions of concepts such as 'faculty', 'consciousness', and 'introspection', and of views on how thought and language were related, led to changes in the very notions of 'recollection' and 'memory'. A group of French writers working at Strasbourg was particularly creative in this respect, and their ideas, neglected for more than 50 years, have recently been rediscovered. There is space here only for the briefest of accounts of their achievements.

Blondel, Halbwachs and 'La mémoire collective'

The view that remembering cannot take place, let alone be studied, independently from the social frames within which it occurs was developed by two great French scientists, Charles Blondel (1876–1939) [24] and Maurice Halbwachs (1877–1944).[25] Both *Normaliens*, their paths crossed again at the University of Strasbourg where they became professors of experimental psychology and sociology, respectively; and where they joined Marc Bloch, the historian. At their famous 'Saturday seminars', the group regularly exchanged ideas so that it is difficult to decide on the paternity of the latter. For example, with regard to the notion of 'collective memory' there seems to be no problem with the view that Halbwachs (1925) developed it first in his book *Les Cadres Sociaux de la Mémoire*.[26] However, if the

view that consciousness itself is determined by social frames is taken to be the parent idea, then Blondel's (1914) early book *La Conscience Morbide* has a crucial role to play. And the same can be said of the very idea of *la conscience collective* which, although attributed to Durkheim, can be traced back to the beginning of the nineteenth century (Brunschvicq, 1927: pp. 565–81).[27]

Conceptual frames, determined by a common culture (expressed in language, images and other communication devices and social practices)[28] are internalized by members of the collective, so that their perception of the world becomes homogeneously shared, and their view of themselves tends to revolve around what is general to the culture inhibiting what is personal in their lives.[29] Memory, particularly the remembering of one's past (autobiographical memory), is the domain where this shaping influence is at its strongest. So much so that personal memories can be said to be a biased 'reconstruction':

> The individual calls recollections to mind by relying on the frameworks of social memory. In other words, the various groups that compose society are capable at every moment of reconstructing their past. But, as we have seen, they most frequently distort the past in the act of reconstructing it. There are surely many facts, and many details of certain facts, that the individual would forget if others did not keep their memory alive for him' (Halbwachs, 1925: p. 391).

However, for the psychiatrist working in a memory clinic, the issue remains what does this all mean in regards to specific patients? Blondel, a clinician himself, developed a less *au outrance* version. Self-narratives about the past are constituted by 'memories proper' and by 'inferred knowledge'. The former included spontaneous recollections, usually accompanied by a feeling of participation and familiarity; the latter information about ourselves learned from all sources or inferred from the regularities of our lives (Blondel, 1928a: pp. 152–3). However, these two databases are inert without 'social frames', i.e. without the application of maps to determine their spatial organization, time sequencing, semantic hierarchization, etc.[30] These frames are borrowed mostly 'ready-made' from the culture we live in and carry fixed interpretations of events, calendars, etc. Furthermore, each period of our life is governed by different frames and these may well be stored together with the 'original pictures' of our experiences. But when as adults we are asked to narrate events from our childhood: which frame are we to use? The fact that often enough we reframe the 'original pictures' leads to interesting feelings of dissonance particularly when we revisit the haunts of childhood and feel strangely disappointed about the size and beauty of the original components of their landscape.[31]

Blondel's approach is also helpful with regard to patients who after losing a dominant relative seem unable to organize their own 'original pictures' in any meaningful sense, and who often perceive this failure as a 'memory problem'. It is

likely that, in a subset of the latter, the pathology may not be in the storing or retrieval of 'the original pictures' but in the fact that they lack in 'social frames', or are unable to make use of those available.[32]

Janet and Bartlett

Three years after Halbwachs' book, Pierre Janet (1928) published a set of lecture-notes[33] where he conceived of memory as a general mental function adapted to deal with 'remoteness and absence' (p. 233). The natural medium of memory was the *récit* (the narrative): 'in the description we have the illusion that objects continue to exist' (p. 245). [but] . . . 'the narrative does not guarantee that we will recover the object' (p. 247) . . . 'the first act of memory, its point of departure, is the moment when the act is fabricated' (p. 255) . . . 'I would like to say a word on one essential feature of remembering . . . its objective is that of getting the interlocutor to experience the feelings that he would have experienced had he been present at the original event' (p. 270). Janet sees this narrative capacity as the expression of a primitive fabulative function.[34] Although subscribing to a type of 'reconstruction hypothesis', Janet said little about the social frames of memory, and not uncharacteristically, he refrained from mentioning Halbwachs. If anything, he seemed to disagree with Blondel's view that psychosis results from the rebellion of the personal, idiosyncratic language of coenesthesia against the official language of collective consciousness (pp. 461–2).

In his chapter on 'requirements of a theory of social recall', Bartlett (1932) commented upon Janet's 'persuasive and attractive manner' but hastened to say that any similarity between that and his own views was coincidental for 'he had completed this part of [my] study before Janet's volumes appeared' (footnote, p. 293). In the same chapter, Bartlett seemed to accept Halbwachs's views 'certainly most of these remarks, in so far as it is possible to give them clear significance, seem both true and important' (p. 296). But then writes: 'yet [Halbwachs] is still treating only of memory in the group, and not of memory of the group. As to former, there need be no dispute whatsoever . . . but we need to go far beyond this if we are to show that the social group itself possesses a capacity to retain and recall its own past' (p. 296). It is not clear what the criticism is here for neither Halbwachs, Blondel nor Durkheim purported to reify the social object to the point that, by collective memory, they mean some external entity which has its own memory system.

Interesting is also the way in which Bartlett's notion of 'schemata' has been understood (or re-interpreted) by his followers. Whilst Bartlett (1932) himself seemed to admit that Halbwachs had been at least an inspiration: 'more over this persistent framework [the social frames] helps to provide those *schemata* which are a basis for the imaginative reconstruction called memory' (p. 296), Oldfield and Zangwill (1942) agonized over where Bartlett had got the idea from but sur-

prisingly do not mention Blondel, Janet or Halbwachs. All they could say was: 'it is evident that Bartlett's conception [of schemata] differs from that of Head in a number of respects. Indeed, it might reasonably be said that little has been taken over from Head except the general principle' (p. 116).

Clinical disorders of memory

The early nineteenth century

A paucity of specific publications on memory disorders during this period suggests that they did not occupy the forefront of clinical interest. However, matter of fact descriptions can be found incorporated in clinical writings dealing with other diseases. Theorizing on what these cases meant or had in common started after the 1840s, when a theory of memory emerged out of clinical observation. This view, unsurprisingly, was not at one with what philosophical psychologists such as Mill, Hamilton, Cousin or Garnier thought of the nature of memory.

Landre-Beauvais and semiology

'Semiology', the science of the signs and symptoms of disease was born in medicine at the beginning of the century, and reached psychiatry (as a descriptive psychopathology) by the 1840s (Berrios, 1996). By 1813, the leading book on medical semiology already included commentaries on memory: 'amongst the early signs of delirium one finds agitation and lesions of memory' (Landre-Beauvais, 1813: p. 284). This author also referred to memory loss in the context of lethargy:

> The suspension or abolition of the intellectual faculties is often manifested in a total or partial loss of memory . . . when this occurs during the acute stage of the disease, is a prodromal sign of delirium; but when delirium does not follow, the danger is even greater as the memory loss may herald a paralysis of some segment of the body . . . when after a serious disease, memory does not improve, the damage may become permanent (p. 294).

This is a good example of memory complaints becoming prima facie parts of a universe of medical signs; indeed, other mental symptoms such as hallucinations, anxiety, etc., were similarly handled during this period (Berrios, 1996).

Rush, Prichard and Holland

Influenced by his teacher William Cullen, Benjamin Rush (1812) considered 'Derangement of Memory' as a separate 'disease' that included the 'oblivion of names, vocables, sounds, mode of spelling, qualities or number of most familiar objects, and of events in time and space (often of the most recent)'. 'Corporeal' causes of oblivion included 'intemperance in eating and drinking, excess in venery,

fevers, vertigo, apoplexy, brain lesions, and the use of snuff'; and 'grief, terror, oppressing the memory in early life with studies disproportionate to its strength, and undue exercise of memory or its neglect' were the main 'mental' causes. To improve memory, Rush recommended hygienic techniques based on association psychology (pp. 276–90).

Prichard (1835) distinguished four stages in the evolution of dementia: [loss of] memory, reasoning, comprehension and voluntary action. The first one was characterized by 'forgetfulness of recent impressions, while the memory retains comparative firm hold of ideas laid up in the recesses from times long past . . .' (p. 89). His contemporary Esquirol (1838), however, showed little interest in this field and only in passim, mentions memory deficits in mental handicap and dementia: 'many of those in dementia have lost their memories for information relevant to their lives. Particularly the faculty of recollecting impressions recently obtained . . .' (p. 220).

Sir Henry Holland (1852) put it differently:

> the processes of memory, indeed, are performed by association, and depend on suggestion; but neither of these terms, in their ordinary use, express all that we mean even by simply memory, still less denote the higher power of recollection . . . for our present purpose we need nothing more than the simple expression of certain assured facts; – viz., that there is a faculty of our mental constitution, by which the successive states of mind passed through, whether of perception or thought, leave impressions behind of more or less clearness and persistence . . . (p. 150).

Holland also pointed out that, in insanity, there tends to be a loss of memory for the episode of illness, and that memory is affected by age, partly because it 'may arise from too feeble circulation through the brain' or excitement and fatigue; likewise 'the natural decay of memory in old age, though not in any obvious proportion to the decline of those powers which connect us more directly with the external world, must be admitted as a fact in our mental constitution . . .' In this age group 'the capacity for receiving and fixing impressions appears, indeed, to decline sooner than the power of recalling and using those formerly received . . .' (Holland, 1852: p. 165).

Holland's views were more organized than any expressed by Forbes Winslow (1861) who in five chapters on the psychology and pathology of memory in his book *On Obscure Diseases of the Brain and Disorders of the Mind* lists many cases of dementia, déjà vu, transient global amnesia, etc. without drawing any theoretical conclusions.

Feuchtersleben and Griesinger

Quoting Kant, Feuchtersleben (1847) marvelled at the faculty of memory: 'the most wonderful of all powers of the human mind' (p. 121), and called into ques-

tion Locke's memory mechanism: 'it is at once self-evident that the notion of a tabula rasa, which is by degrees written all over, is not tenable'. Likewise, influenced by phrenology, the Austrian nobleman believed that: '(a) Memory in man was in direct proportion to the size of the healthy brain, (b) memory increased and decreased with the consistency of the medullary substance [white matter] of the brain, from childhood to old age, and (c) memory was improved or impaired in proportion as the cerebral vitality is improved or impaired' (p. 121).

Feuchtersleben recognized four types of memory disorder: (a) 'unusually heightened memory (hypermnesia) . . .' (b) a morbidly weakened memory (dysmnesia) . . ., (c) an altered memory manifesting itself by the perverted manner of remembering . . . certain phantasms of the memory are to be referred to this head; for instance, when a person feels as if a situation in which he actually finds himself had already existed at some former time . . ., and (d) a relatively diseased memory, metaphorically called 'partially' diseased or lost' . . .' (p. 237). Amnesia and senile loss of memory were included under heading (b), and the aphasias under heading (c) which also contained all manner of 'psychiatric' memory disorders such as delusions of memory and déjà vu (thus baptised by the French towards the end of the nineteenth century).[35] Feuchtersleben also believed that the causes of 'diseased memory were psychical or physical'.

Far more theoretical was Griesinger (1867) who wrote: 'The more intimate proceedings of this process of reproduction are obscure, and quite incomprehensible; old ideas suddenly arise without any origin' . . . 'any disease of the brain may impair or destroy memory, consequently the state of memory, in many of the insane, indicates the severity of their malady' (p. 32). Griesinger made here the important point that memory was not specifically localized on any one part of the brain:

> The examples of quite partial loss of memory, so frequently the result of wounds or diseases of the brain, in which one might infer the loss of the apparatus devoted to a particular class of ideas, appear in reality to be more general in their effects than might at first be supposed . . . (p. 32).

(This point was to be made repeatedly around this period, see Maury, 1878: p. 445.) Griesinger (1867) recognized the disorders of memory characteristic of dementia, insanity (melancholia and mania); and following the mood of his period also considered neologisms and language deficits as memory deficits (pp. 68–70).[36]

The second half of the nineteenth century

The concept of amnesia

The term *amnesia* is already present in the medical language of the early nineteenth century.[37] Throughout the century, clinicians were interested to know

whether patients with 'vesania' (i.e. psychoses not accompanied by demonstrable brain lesions) did also suffer from memory impairment. For example, Baret (1887) concluded that only some severe forms of melancholia were accompanied by memory deficit. Kirchhoff (1893), on the other hand, suggested that 'the insane exhibit notable disturbances in the truth of their memories; as the mood of the moment exercises the greatest influence on the manner in which memory-pictures are conceived, a falsification of the previous impressions is thus produced' (p. 82). (For a historical study of the relationship between melancholia, mood and memory disorders see Berrios, 1985b.) The terms 'anterograde' and 'retrograde', however, only came into currency at the end of the nineteenth century.[38]

Falret and Ribot

Jules Falret (1865) was a well-known alienist. Written from a medical viewpoint, his work on amnesia offers one of the best accounts of the disorder available at the division of the century. There is no space here to summarize it in any detail. It shows, however, that even during this period the term and concept of 'amnesia' still had a descriptive function and made no assumptions as to duration, aetiology or reversibility. In very general terms, Falret distinguished between 'physical' and 'psychological' causes of amnesia, and between 'general' and 'partial' forms. He also offered a rich collection of clinical observations where the modern neuropsychiatrist will find an antecedent for recently described syndromes including transient global amnesia (p. 729), acute intoxication with anti-cholinergics (p. 736), senile dementia (p. 733), and state-dependent learning (p. 735).

By the second half of the nineteenth century, 'disorders of memory' had become a popular topic of research. In this, Ribot (1882) played an important role although his oft-quoted book is not a straightforward one. After dwelling on Hering's ideas, Ribot divided mnestic disorders into 'amnesia', 'partial amnesia', and 'exaltations of memory'. He conceived of 'diseases of memory as morbid psychical states' dividable into those 'limited to a single category of recollections' [partial] and those affecting 'the entire memory in all its forms' [general] (p. 70). Whether general or partial, amnesia must be divided into temporary, periodical, progressive and congenital. Memory deficits were caused by all manner of things, for example, epilepsy gave rise to a 'typical form' of temporary amnesia; senile dementia and cerebral haemorrhage caused progressive forms of amnesia; congenital amnesias were seen in the idiot and cretin; and the so-called phenomenon of 'double consciousness' (à la Azam),[39] was his best example of 'periodic amnesia'. After Falret and Ribot, and towards the turn of the century, books on specific memory disorders such as the paramnesias began to appear.[40]

The paramnesias

For a history of these disorders see Chapter 14: 'Paramnesias and delusions of memory', this volume.

Déjà vu

For the history of this disorder see Chapter 15, 'Déjà vu and jamais vu', this volume.

Confabulations

For the history of these disorders, see Chapter 16, 'Confabulations', this volume.

Fugues and other transient amnesias

Up to the division of the nineteenth century, it was assumed that memory disorders, including those that improved, had a general 'organic' basis. The view that some were, in fact, 'functional' resulted from conceptual changes that occurred after the 1880s, inter alia, the softening in the medical definition of 'lesion', Charcot's interest in the 'functional', the growing importance of hypnosis, and the acceptance of 'non-conscious' and 'automatic' psychological mechanisms.

Odd behavioural phenomena such as 'multiple personalities' (Hacking, 1995), the 'wandering behaviour' of some vagrants (Meige, 1893), and cases of transient and total loss of autobiographical memory were also medicalized during this period, and soon enough discussed in the context of the memory disorders. By the 1890s, the latter or 'fugue states' had been subdivided, and their core symptoms actively sought for. [41] Psychoanalysis contributed to their understanding with the mechanisms of 'repression' and 'dissociation', and ensured their survival to the present (see interesting study by van der Hart, 1985). In this sense, the claim that 'vagrancy as an issue passed from view by 1910, and fugue with it' (Hacking, 1996: p. 448) is inaccurate. Indeed, fugue states are regularly seen in clinical practice, and still pose an aetiological conundrum.[42] In this regard, the historian must offer an account of the process by which 'fugue states' 'converged' as a medical entity.[43]

Early history

Descriptions of behaviours redolent of 'fugue states' can be found since early in the medical literature of the nineteenth century. For example, Aubanel (1851) reported the case of a patient with neurosyphilis who used to escape in a 'bewildered state'. The term 'fugue' seems to have been first used by Lasègue (1868) to describe the dreamy, hallucinatory state of an alcoholic subject. In an important monograph, Foville (1875) reported 14 cases of psychotic subjects with a tendency to travel or wander away from home (les aliénés voyageurs ou migrateurs) (for this concept see also Tissié, 1887); chronically deluded and hallucinated, some also

exhibited depressive features which he classified as 'Lypémanie'. It would seem, however, that no one wandered off in a state of autobiographical amnesia. Foville made it clear that they did not constitute a separate group of psychotics but just a subset of psychotic depressives whose hallucinations and delusions caused their travelling. Luys (1881) reported a subject with a 'fugue-like state lasting four days'; and Motet (1886) another with similar behaviour after a fall. These, and other similar cases reported before 1888, concern patients who, in the wake of an organic disorder, and whilst confused, wandered off for varied periods of time. [44]

In his 'Tuesday Lectures', Charcot (1987) presented the case of a 37-year-old epileptic with 'wandering' behaviour. Calling it 'somnambulism', Charcot classified these behaviours into primary, post-hypnotic and 'hysterical', thereby suggesting that not all 'automatisms' were epileptic (comitial). Charcot also described at length the case of Klein, a 23-year-old Hungarian Jew, who after criss-crossing Europe was admitted into La Salpêtrière on 11 December 1888, and four other cases of 'wandering Jews'.[45] A year later, Voisin (1889) reported a case of 'hysterical' (as opposed to epileptic) automatism; and in the year of Charcot's death, Meige (1893) published his famous monograph on the 'wandering Jew'.

Régis (1906) coined the term 'dromomanie' to refer to a 'general impulse to wandering' seen in various forms of mental illness. Therefore, Raymond (1896) was rightly to conclude in one of the volumes of his *Lectures at La Salpêtrière*, that 'fugue states constituted a syndrome' that could be seen in epilepsy, hysteria, and degeneration states. After firmly identifying amnesia and lack of insight (and occasionally multiple personality) as the core features, Raymond excluded all wandering behaviours that were 'consciously planned' (such as that of some of Régis's 'dromomanes').

Fugue in the early twentieth century

The early twentieth century saw an explosion of publications on the fugue state. The magnificent thesis by Hamelin (1908) set the scene by offering an historical analysis, case reports, and a tripartite classification: (a) fugues (ambulatory automatisms) in epilepsy, hysteria, and somnambulism (12 cases); (b) fugues in 'dromomanes' affected by mental degeneration (7); and (c) fugues in psychotics, e.g. chronic hallucinatory states, paranoiacs, etc. (7). Hamelin assessed their prognosis and suggested specific therapeutic measures.

In a lecture before la Société Médico-Psychologique, Benon & Froissart (1908) proposed definitions for both 'fugue' and 'wandering behaviour' (vagabondage). The former they defined as 'a transient, paroxysmal and non-habitual disorder of action during which the patient will displace himself short or long distances under the influence of a psychological abnormal state' (p. 306); and 'vagabondage' as 'a habitual disorder of action that leads the subject to displace himself under the

influence of an abnormal mental state' (p. 307). Given the 'clarity and richness of the French language', Collin called into question (during the exchanges that followed the lecture) the need of having definitions at all; and Lwoff and Vallon made the point that in many cases it could not be said that vagabonds were 'ill in any way'. Benon defended their position by saying that the whole point of the paper had been to establish a clear difference between fugue and vagabondage which were still confused by many authors. A year later, Benon and Froissart (1909) published a major review making the point that the mental state of the subject (whether or not he was in a state of 'absence', i.e. had temporarily lost his autobiographical memory) was more important to diagnosis than the objective features of the travelling itself. They also offered a classification, including sections on fugues in the military (Roue, 1967), the elderly (Commandeur et al., 1989), and in children (Yazmadjian, 1927; Lagache, 1979).

The detailed monograph by Joffroy and Dupouy (1909) appeared after the senior author, a great professor at St Anne, had already died. In a preface to this work, G. Deny made the point that in most cases vagabonds were neither criminal or mad. Joffroy and Dupouy proposed that, together with some 'automatisms' and obsessional disorders, fugues were disorders of the will (on the latter see Berrios & Gili, 1995).

The transient loss of autobiographical information (including personal identity) characteristic of the 'fugue states' was also highlighted by Abeles and Schilder (1935) in a classical paper on 'motivated amnesia' (defined as one in which a trigger or reason could usually be found). The authors reported 28 cases with 'temporary personal disorientation' who had retained the ability to learn information during the attack. Spontaneous recovery occurred in most cases, and 'behind the superficial conflicts which precipitated the amnesia [many had] deeper motives . . .' (p. 609). In his review on memory disorders, Gillespie (1937) included 'psychogenic amnesia' which he defined as a 'failure to recall . . . inhibition of recall may result from the activity of the ego itself' (p. 763).

Two years later, Stengel (1939), started his series of papers on the 'fugue state' (compulsive wandering or porimania). In a substantial second paper, Stengel (1941) reported 25 cases out of which 10 were related to epilepsy, one to schizophrenia, and the 'remaining were manic-depressives, hysterics and psychopaths' (p. 597). Most patients had a disturbed childhood, were prone to compulsive lying, and showed a tendency to periodic changes in mood and to developing 'twilight states'. A third paper added 11 cases concluding that 'fugues with an impulse to wander occur in a variety of conditions' and that 'the symbolic meaning of the fugue' was important (Stengel, 1943: p. 241).

A year later, and based on the examination of 30 patients, Parfitt and Gall (1944) concluded that: (a) both organic and hysterical factors contributed to the

development of the fugue states, (b) 'personal recall' (their name for autobiographical memory) was more often affected than impersonal recall (semantic memory), (c) patients do not forget but refuse to remember, and (d) the difference between hysterical amnesia and malingering was only one of degree (pp. 526–7).

Berrington et al. (1956) re-evaluated Stengel's views and after studying 37 cases concluded that alcoholism, hysterical mechanisms and brain injury were more important causal factors than 'disturbed childhood'. The same year, Bergeron (1956) reasserted the French view that fugues (impulsive wandering accompanied by transitory amnesia) differed from the wandering behaviour of travellers, vagabonds and tramps whose mental state ranged from normality to severe psychosis, and in whom 'amnesia' and 'secondary gain' were conspicuous for their absence.

'Ictus amnésique' and transient global amnesia

By 1910, French alienists separated off from the large group of 'fugues' the condition called l'ictus amnésique (Benon, 1909) or 'l'éclipse mnésique' (Dromard, 1911) conceived of as a transient amnesia of 'organic' origin. The former author reported four cases with a mean age of 70, defining his syndrome as: a 'clinical disorder characterized by a sudden and short lived loss of retrograde memory; the deficit being dense and diffuse' (Benon, 1909: p. 207). Dromard (1911), in turn, suggested that this condition may follow a violent emotion. To this day, this syndrome, known in Anglo-Saxon medicine as 'Transient Global Amnesia' is referred to by the French as 'l'ictus amnésique' (Trillet, 1990).

As always, clinical reports redolent of 'l'ictus amnésique' can be found much earlier. For example, Forbes Winslow (1861) reported a case with 'sudden, transient, and paroxysmal attacks of forgetfulness, particularly if associated with an inability to articulate clearly . . . ought to be regarded as harbingers of fatal attacks of paralysis, softening, apoplexy and insanity' (p. 372) (for other historical cases see Markowitsch, 1990a).

In the 1950s, the syndrome was rediscovered by the Americans as 'Transient Global Amnesia' (TGA) (Fisher & Adams, 1958) and the view expressed that an 'organic' causation was always involved. For a time, confusion reigned as to whether, in addition to age and psychodynamic mechanisms, there were other differences between TGA and conventional fugues (Markowitsch, 1990b). In this regard, in a classical monograph, Hodges has concluded: 'it is increasingly likely that different mechanisms underlie the various components of the amnestic syndrome and that no single deficit can explain the anterograde and extensive retrograde amnesia observed in patients with permanent amnesia and in TGA' (Hodges, 1991: p. 100) (see Chapter 9, 'Transient global amnesia and transient epileptic amnesia', this volume).