Brief Neuropsychological Glossary

Dr Nicolò Zarotti

@nicolozarotti

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Condition	Other names	Description	Associated brain structures
Accelerated long-term forgetting (ALF)		Abnormally rapid rate of forgetting over days to weeks with preserved encoding up to 30 minutes	Temporal regions, temporal epilepsy (Elliott, Isaac, & Muhlert, 2014; Jansari, Davis, McGibbon, Firminger, & Kapur, 2010)
Achromatopsia	Total colour blindness Cerebral achromatopsia (cf. congenital)	Complete loss of perception of colours (black & white vision)	Lingual and fusiform gyri
Acquired brain injury (ABI)[1]		Damage to brain tissue of any aetiology (e.g., head trauma, stroke, tumour, etc) acquired through one's life (i.e., *not developmental*)	N/S
Akinetic mutism		Inability to move (akinesia) and speak (mutism), along with complete lack of interest for one's own surroundings	Bilateral anterior angular gyrus
Alexia with agraphia		Deficit of reading and writing with no aphasia	Left angular gyrus
Alexithymia		Inability to identify and describe one's own or other people's emotions (functional impairment between emotions and cognition)	N/S
Alien hand syndrome (AHS)	Dr Strangelove syndrome	Phenomenon in which one's hand appears to act on its own, with no conscious control over it	Anterior cingulate gyrus, medial prefrontal cortex, anterior corpus callosum

[1] While ABI includes TBI by definition (but not vice versa), some authors use ABI and TBI as interchangeable terms (Lezak, Howieson, Bigler, & Tranel, 2012).

Condition	Other names	Description	Associated brain structures
Allochiria		Tendency to respond to stimuli presented to the contralesional side of one's body as if they were on the ipsilesional side – part of hemispatial neglect symptomatology	Right parietal regions
Agrammatism		Tendency to form sentences consisting mainly of content words (e.g., nouns, verbs), and lacking function words (e.g., articles, prepositions, conjunctions)	Broca's area (foot of the third frontal circumvolution, Brodmann's areas 44/45)
Allographic dysgraphia		Deficit of allographic handwriting codes (capital letters, italics, uppercase, lowercase, etc)	N/S (often depending on underlying condition)
Alzheimer's disease (AD)		Retrograde and anterograde amnesia, sleep disturbances, depression, deficit of prospective memory, agnosia, prosopoagnosia, constructional apraxia, wandering, enhanced personality characteristics, attentional and executive deficits (later stage), hallucinations and delusions (later stage), apathy, disinhibition	Atrophy of cortical areas, starting from medial temporal lobes and progressively involving frontal, parietal, and ultimately occipital regions
Amimia		Inability to express oneself through non-verbal gestures	N/S
Amusia	Tone deafness	Deficit of recognition and reproduction of musical tones	Right superior and middle temporal gyri
Anarithmetria	Primary acalculia Dyscalculia	Deficit of processing and understanding of arithmetic procedures	Left posterior parietal regions

Condition	Other names	Description	Associated brain structures
Anomia	Amnestic aphasia	Deficit of name recollection	Superior parieto-temporo-occipital regions
Anosognosia	Lack of insight; impaired self-awareness of deficits	Unawareness of one's own pathological state and/or deficits	Right parietal regions; frontal regions
Anterograde amnesia		Inability to learn new information and create new memories	Medial temporal lobes (including hippocampi), dorsomedial thalamic nucleus, mamillar bodies, medial nuclei of septum
Anton syndrome	Anton-Babinski syndrome Visual anosognosia	Anosognosia for cortical blindness, confabulation	Areas supplied by the posterior cerebral arteries (Chaudhry, Raza, & Ahmad, 2019)
Aphasic dyscalculia		Alexia and agraphia for numbers	
Apraxic agraphia (AA)		Inability to perform the skilled movement plans involved with writing	Parietal lobe, including angular gyrus, occasionally extending to temporal lobe, occipital lobe, and internal capsule
Aprosodia		Inability to convey or interpret information about emotional prosody in language, such as rhythm, pitch, or intonation	N/S, generally on right hemisphere
Asomatognosia		Inability to recognise one's half of the body and/or limb – part of hemispatial neglect symptomatology	Right parietal regions

Condition	Other names	Description	Associated brain structures
Auditory agnosia		Deficit of analysis of *nonverbal sounds* (cf. AVA) – occasionally in combination with amusia and AVA	Parietal lobes (bilateral)
Auditory STM impairment		Limited immediate memory span for letters, numbers, and word, deficit of comprehension of long and complex sentences, difficulties learning new foreign words	Inferior parietal, superior temporal, and left inferior frontal regions
Auditory verbal agnosia (AVA)	Pure word deafness	Inability to analyse and discriminate *verbal sounds* (cf. auditory agnosia), deficit of dictation writing, often visual agnosia	Secondary auditory areas (bilateral) and tracts connecting them to Wenicke's area
Automatic-voluntary dissociation		Loss of an ability in voluntary executions, but retained in automatic modalities	N/S
Autoscopy		Experience of perception of *a disembodied copy of one's own body* (cf. heautoscopy) looking at oneself	Unclear (some links to left temporal lobe, especially during seizures; (Blanke & Mohr, 2005)
Autotopagnosia		Deficit of localisation of body parts on one's own body or on another person and/or picture	Parietal and/or occipito-parietal regions of language-dominant hemisphere
Bálint-Holmes syndrome		Simultanagnosia, oculomotor apraxia, optic ataxia	Parieto-occipital regions (bilateral and symmetric; Rizzo & Vecera, 2002)
Behavioural variant FTD (bvFTD)	Pick's disease	Attentional and executive impairments, emotional difficulties, apathy, disinhibition, obsessions, compulsions, personality changes, anosognosia	Frontal and temporal lobes (mainly frontal)

Condition	Other names	Description	Associated brain structures
Binswanger's disease	Subcortical arteriosclerotic encephalopathy (SAE) Subcortical vascular dementia	Motor deficits, executive impairments, bradykinesia, incontinence, emotional lability with PBA	White matter atrophy of subcortical regions due to small vessel disease
Blindsight		Implicit response to visual stimuli in people with cortical blindness	Primary visual cortex (V1)
Broca's aphasia		Agrammatism, telegraphic speech, moderate deficit of comprehension, buccofacial apraxia	Broca's area (foot of the third frontal circumvolution, Brodmann's areas 44/45)
Buccofacial apraxia	Facial-oral apraxia	Inability to perform the coordination of facial and lip movements needed for whistling, winking, coughing, kissing, and sticking one's tongue out on command – ability is retained for automatic modalities (cf. automatic-voluntary dissociation)	Premotor cortex, anterior left insula
Callosal agraphia		Deficit of writing for the left hand often associated with ideomotor apraxia and tactile anomia	Antero-medial tract of the corpus callosum
Callosal apraxia		Both ideational and ideomotor apraxia for homolateral limb to dominant hemisphere	Corpus callosum
Callosal disconnection syndrome		Left ideomotor apraxia, left-hand agraphia and/or tactile anomia	Corpus callosum

Condition	Other names	Description	Associated brain structures
Capgras syndrome	Capgras delusion	Delusional belief involving the idea that every known person has been replaced by an impostor	Temporo-occipital junction (bilateral; cf. prosopoagnosia; (Sinkman, 2008)
Chronic traumatic encephalopathy (CTE)	'Punch drunk' syndrome Dementia pugilistica	General cognitive, emotional, and behavioural impairments due to neuropathological changes caused by repeated concussions (e.g., contact sports such as boxing, rugby, American football)	N/S (Stein, Alvarez, & McKee, 2014)
Closed head injury (CHI)		Blunt head injury in which the meninges and the brain are *not penetrated* (cf. PHI) by any objects (with or without skull fracture)	N/S
Colour amnesia		Deficit of association between knowledge about objects and their typical colour	Left inferior temporo-occipital junction
Colour anomia	Colour agnosia	Deficit of naming and recognition of colours	Left temporo-occipital regions
Concussion		Mild form of TBI	N/S
Conduction aphasia	Associative aphasia	Deficit of speech repetition (production and understanding relatively intact)	Left arcuate fasciculus
Confabulation		Memory error (often false/fabricated memory) taken as true by the patient due to memory gaps, sometimes associated with blackouts	Papez circuit (connection between hippocampus, mamillar bodies, and mammillothalamic tract) – cf. Korsakoff syndrome

Condition	Other names	Description	Associated brain structures
Constructional apraxia		Deficit of building, assembling, or drawing objects and/or figures, either from memory or by copying	Frontal, posterior parietal, subcortical regions
Cortical blindness	Bilateral homonymous hemianopsia	Complete blindness over the whole field of vision due to brain damage (preserved functioning of the eyes)	Optical radiations and/or bilateral striate cortex
Corticobasal degeneration (CBD)		Severe progressive apraxia, alien hand syndrome, parkinsonism, slowly progressive aphasia	Fronto-parietal cortex, basal ganglia
Creutzfeldt-Jakob disease (CJD)	'Classic' Creutzfeldt-Jakob disease	Generalised cognitive deterioration leading to full-blown dementia, depression, weakness, involuntary muscle jerks (myoclonus), behavioural difficulties, ataxia, blindness	Generalised neuronal loss and brain damage due to prion proteins aggregate
Dacrystic seizure		Focal or partial seizure characterised by uncontrolled crying	Hypothalamus
Deep dysgraphia		Deficit of writing and spelling of non-words, semantic substitutions paragraphias, morphological errors, lexical effects (e.g., word frequency), grammatical class effects (e.g., nouns better than verbs), imageability effects (concrete words better than abstract words)	Left posterior association cortex
Deep dyslexia		Deficit of reading of non-words, semantic paralexias, morphological errors, lexical effects (e.g., word frequency), grammatical class effects (e.g., nouns better than verbs), imageability effects (concrete words better than abstract	Language-related regions and left perisylvian areas

Condition	Other names	Description	Associated brain structures
		words); often associated with severe aphasia and agrammatism	
Dressing apraxia		Deficit of motor, semantic, and procedural knowledge required by the act of dressing oneself	Left/bilateral parietal regions
Dysexecutive syndrome (DES)	Frontal lobe syndrome	Cognitive, emotional, and behavioural symptoms – including: loss of initiative, akinetic mutism (less commonly), apathy, utilisation behaviour, lack of inhibition, confabulation, perseveration, emotional lability, aggressiveness, personality changes, deficits of planning, behavioural rigidity, lack of reorganisation, chaotic and/or erratic behaviour	Frontal lobes (generally) – anterior cingulate cortex (symptoms related to lack of motivation), dorsolateral prefrontal cortex (symptoms related to lack of inhibition and flexibility), orbitofrontal cortex (symptoms related to behavioural and personality change)
Echolalia		Involuntary repetition of *other people's* (cf. palilalia) syllables, words, sentences	Mostly N/S, sometimes frontal regions
Environmental dependency syndrome	Zelig-like syndrome	Inability to accomplish tasks or goals without relying on environmental clues	Frontal regions (Conchiglia, della Rocca, & Grossi, 2007)
Finger agnosia	Digital agnosia	Inability to show or name selectively one's own fingers	Left occipito-parietal regions
Fixation amnesia		Deficit of immediate memory for events occurred in the past few minutes	Papez circuit (connection between hippocampus, mamillar bodies, and mammillothalamic tract) – cf. Korsakoff syndrome

Condition	Other names	Description	Associated brain structures
Frégoli syndrome	Frégoli delusion	Delusional belief involving the idea that all other people are the same person in disguise	Right frontal and left temporo-parietal regions (Mojtabai, 1994)
Frontotemporal dementia (FTD)		Umbrella term used to group bvFTD, PPA, and SD	Frontal and temporal lobes
Frontotemporal lobar degeneration (FTLD)		Umbrella term used to identify the pathophysiological changes underlying FTD	Frontal and temporal lobes
Gelastic seizure		Focal or partial seizure characterised by uncontrolled laughing	Hypothalamus
Gerstmann syndrome		Anarithmetria, right-left confusion, finger agnosia, and agraphia	Left parietal regions
Global amnesia		Both retrograde and anterograde amnesia, occasionally anosognosia and confabulation	Medial temporal lobes (including hippocampi), dorsomedial thalamic nucleus, mamillar bodies, medial nuclei of septum
Global aphasia		Severe deficits of speech articulation, language production, repetition, comprehension, reading, writing, recurrent syllabic fragments	Perisylvian pre- and post-rolandic cortex and correspondent subcortical structures (i.e., areas supplied by middle cerebral artery)
Graphemic buffer dysgraphia		Deficit of writing and spelling of words and non-words, length effect, graphemic transpositions, omissions, and substitutions	N/S

Condition	Other names	Description	Associated brain structures
Heautoscopy		Experience of perception *two disembodied copies of one's own body* (cf. autoscopy) looking at each other	N/S (Blanke & Mohr, 2005)
Hemianopsia	Hemianopia	Blindness over half the field of vision, either the same side of each eye (*homonymous*), or a different side on each eye (*heteronymous* – *bitemporal* when affecting the lateral side of each eye)	Optic chiasm, postchiasmatic areas
Hemiasomatognosia	Personal neglect	Inattention towards the contralesional side of one's body – part of hemispatial neglect symptomatology	Right parietal regions
Hemiparesis	Unilateral paresis	Paralysis and/or weakness of one's controlesional side of the body	N/S
Hemiplegia		Complete paralysis of one's controlesional side of the body	N/S
Hemispatial neglect	Unilateral neglect Spatial neglect	Inattention towards stimuli on the contralesional side of one own's space, hemisomatognosia, premotor neglect, motor neglect, visual extinction, allochiria	Right inferior parietal lobule (angular gyrus, supramarginal gyrus), posterior thalamic nuclei, basal ganglia
Herpes simplex encephalitis (HSE)	Herpesviral encephalitis	Headache, fever, confusion, seizures – if untreated, retrograde and anterograde amnesia and deficits of prospective memory due extensive medial temporal damage caused by caused by the reactivation of the orofacial herpes virus (HSV-1)	Medial temporal lobes, including hippocampal formations, parahippocampal gyri, insula, right inferior frontal gyrus (Whitley, 2006)

Condition	Other names	Description	Associated brain structures
HIV-associated neurocognitive disorder (HAND)	HIV dementia	Impairments of memory, attention, verbal fluency, and visuospatial construction	Mainly subcortical and fronto-striatal regions
Huntington's disease (HD)	Huntington's chorea	Involuntary movements (chorea), mood disorders, emotion recognition deficit (especially negative emotions), irritability, procedural memory deficit	Basal ganglia (caudate nucleus)
Hyperthymesia	Hyperthymestic syndrome Highly superior autobiographical memory (HSAM)	Abnormally high authobiographical memory skills, leading to extremely accurate and often automatic recall of life	Inferior and middle temporal gyri, temporal pole, anterior insula, parahippocampal gyrus (LePort et al., 2012; Parker, Cahill, & McGaugh, 2006)
Ideational apraxia (IA)		Deficit of planning of movements required to interact with objects due to loss of perception objects' purposes	Left parietal, temporal, occipital cortexes
Ideomotor apraxia (IMA)		Deficit of imitation of hand gestures and miming of tool use	Left inferior parietal e lateral premotor cortexes, corpus callosum
Intermetamorphosis		Delusional belief involving the idea that other people change into someone else in both external appearance and personality	Evidence of lesions in right frontal lobe and adjacent regions (Cipriani et al., 2013)
Klüver-Bucy syndrome		Compulsive eating, insertion of inappropriate objects in the mouth (hyperorality), bulimia, hypersexuality, tendency to react to every	Medial temporal lobe (bilateral), amygdala

Condition	Other names	Description	Associated brain structures
		visual stimulus (hypermetamorphosis), visual agnosia, amnesia, placidity, visual distractibility	
Korsakoff syndrome		Anterograde amnesia, retrograde amnesia, fixation amnesia, confabulation, that is, minimal content in conversation, lack of insight, apathy	Papez circuit (connection between hippocampus, mamillar bodies, and mammillothalamic tract)
Kuru		Variant form of CJD found among natives of Papua New Guinea and caused by the practice of cannibalism (i.e., ingestion of infected brain tissue; see CJD for symptoms)	Generalised neuronal loss and brain damage due to prion proteins aggregate (Liberski et al., 2012)
Left-right disorientation		Inability to distinguish left from right on one's own or somebody else's body on the mid-sagittal plane	Parieto-occipital regions
Lewy body dementia[2] (LBD)	Dementia with Lewy bodies (DLB)	Alzheimer-like cognitive difficulties (memory impairment usually appears later), hallucinations, delusions, confusion, sleeping difficulties, attentional and executive impairments	Overlapping with AD, but with larger and wider spreading of Lewy bodies
Limb-kinetic apraxia		Inability to perform precise or exact movements with the contralesional fingers or limb	Primary motor and sensory cortical areas

[2] Some authors adopt 'Lewy body dementia (LBD)' as umbrella term to include dementia with Lewy bodies (DLB) and Parkinson's disease dementia (PDD).

Condition	Other names	Description	Associated brain structures
Mad cow disease	Variant CJD (vCJD)	Variant form of CJD caused by ingestion of meat of cattle affected by bovine spongiform encephalopathy (BSE; see CJD for symptoms)	Generalised neuronal loss and brain damage due to prion proteins aggregate (Casalone & Hope, 2018)
Misoplegia		Morbid tendency in people with hemiplegia to dislike or hate the paralysed limb	N/S
Mixed transcortical aphasia		Severe deficits of language production and comprehension	Fronto-temporo-parietal cortical and subcortical regions, with preservation of arcuate fasciculus, Broca's, and Wernicke's areas
Motor neglect		Lack of spontaneous use of contralesional upper and lower limbs in face of preserved motor functioning – part of hemispatial neglect symptomatology	Right parietal regions
Motor neuron disease (MND)[3]	Amyotrophic lateral sclerosis (ALS) Lou Gehrig's disease	Progressive loss of all voluntary movement, dysarthria, dysphagia, cognitive impairment in up to 50% of cases characterised by predominant language, verbal fluency and	Progressive death of both upper and lower motor neurons

[3] The term 'MND' is more commonly used to identify amyotrophic lateral sclerosis in the UK, while 'ALS' is more frequent in the US and rest of Europe. However, the acronym MND (or MNDs) is also used as an umbrella term to include all the diseases affecting motor neurons, such as ALS, progressive bulbar palsy (PBP), pseudobulbar palsy, progressive muscular atrophy (PMA), primary lateral sclerosis (PLS), and monomelic amyotrophy (MMA).

Condition	Other names	Description	Associated brain structures
		executive impairments, full-blown FTD in around 12-15% of cases[4]	
Multiple sclerosis (MS)		Muscle weakness, numbness and tingling, bladder issues, fatigue, sexual disfunctions, pain, depression, emotional changes – cognitive deficits in around 45-60% of individuals and mainly involving episodic memory, information processing speed, complex attentional abilities, and executive functions	Generalised damage and loss of myelin sheaths in neurons
Neurosyphilis		Depression, mania, psychosis, personality changes, delirium, dementia	Manifestation of tertiary syphilis
Normal pressure hydrocephalus (NPH)	Normotensive hydrocephalus	Generalised cognitive deterioration, walking difficulties, incontinence	Expansion of brain ventricles due to excess of CSF
Oculomotor apraxia (OMA)		Inability to purposely move the eyes towards objects of interest	Parieto-occipital regions
Optic aphasia		Anomia affecting only the visual modality	Left occipital regions, splenium of corpus callosum
Optic ataxia		Deficit of visually guarded arm movements (e.g., reaching objects)	Posterior parietal cortex (PPC)
Out-of-the-body experience (OBE)		Experience of perception transfer to a disembodied copy of one's own body from	Temporo-parieto-occipital junction (Blanke & Mohr, 2005)

[4] Due to substantial pathophysiological similarities, MND and FTD are considered by some authors as part of the same clinical continuum (Ferrari, Kapogiannis, Huey, & Momeni, 2011).

Condition	Other names	Description	Associated brain structures
		which *the real body can be observed lying down* (cf. autoscopy and heautoscopy)	
Palilalia		Involuntary repetition of *one's own* (cf. echolalia) syllables, words, sentences	Mostly N/S, sometimes frontal regions
Parkinson's disease (PD)		Progressive rigidity, dystonia, bradykinesia, dysarthria, dysphagia, cognitive impairment (cf. PDD)	Basal ganglia (especially substantia nigra)
Parkinson's disease dementia (PDD)		Progressive cognitive impairment with more prominent executive deficits (memory relatively preserved), confusion, depression, anxiety, psychosis	Basal ganglia (especially substantia nigra)
PEMA syndrome		Palilalia, echolalia, mutism, amimia	N/S
Penetrative head injury (PHI)	Open head injury	Head injury in which the meninges and the brain are *penetrated* (cf. CHI) by an object	N/S
Phonological dysgraphia		Deficit of writing and spelling of non-words and/or unfamiliar or phonetically irregular words	Supramarginal gyrus and/or insula
Phonological dyslexia		Deficit of reading of non-words and/or unfamiliar or phonetically irregular words	Left fronto-temporo-parietal regions
Post-traumatic amnesia (PTA)		Temporary state of confusion, lack of orientation, retrograde and/or anterograde memory loss following TBI – self-resolving within minutes, days, or weeks	N/S

Condition	Other names	Description	Associated brain structures
Posterior cortical atrophy (PCA)	Benson's syndrome	Progressive decline of visuospatial skills, with agnosia, prosopoagnosia, and apraxia followed later by language and memory impairments	Often caused by the same pathophysiological deterioration as Alzheimer's, but following the opposite pattern of progression (i.e., starting from occipital regions)
Premotor neglect		Intentional and voluntary lack of planning of movements from the ipsilesional to the contralesional space of one's environment – part of hemispatial neglect symptomatology	Right parietal regions
Primary progressive aphasia (PPA)		Temporal variant of FTD characterised by initial isolated fluent or non-fluent aphasia, later followed by other cognitive deficits	Degeneration of left perisylvian areas
Progressive supranuclear palsy (PSP)		Executive impairments, apathy, lack of initiative, axial rigidity, vertical gaze impairment, bradykinesia, parkinsonism, postural deficit, often pseudobulbar affect	Gradual deterioration of brainstem (often requires differential diagnosis with Parkinson's)
Prosopoagnosia	Face blindness	Inability to recognise familiar faces (including one's own) in face of preserved object recognition abilities	Temporo-occipital junction (bilateral), fusiform gyrus
Prospective amnesia		Inability to recall planned actions or intentions	Prefrontal lobe
Pseudobulbar affect (PBA)	Emotional incontinence Emotionalism	Episodes of uncontrolled laughing and/or crying (latter more common) secondary to neurological diseases or brain injuries	Depending on underlying neurological condition

Condition	Other names	Description	Associated brain structures
Pseudodementia	Depression-related cognitive dysfunction	Temporary cognitive decline with rapid onset, memory, executive and language impairments, depression, anxiety, fluctuating course, good response to treatment for depression	Generally N/S, possible frontal involvement in psychogenic memory impairment (McKay & Kopelman, 2009)
Psychogenic amnesia	Functional amnesia Dissociative amnesia	Retrograde amnesia following psychological trauma, with no neurological explanation – occasionally limited to a single event or time period, possible loss of personal identity, self-resolving	Potential involvement of frontal areas (McKay & Kopelman, 2009)
Pure agraphia		Isolated deficit of writing by hand and/or keyboard	Parietal, more rarely frontal regions
Pure alexia	Alexia without agraphia Agnosic alexia Pure word blindness Letter-by-letter dyslexia	Isolated deficit of reading of any word – reading only occurs letter-by-letter with pronounced effect of the length of stimuli	Left inferior occipito-temporal and splenium of corpus callosum Often due to infarcts to the left posterior cerebral artery
Pure anarthria	Phonetic disintegration syndrome Articulatory apraxia	Complete loss of the ability to articulate speech with intact auditory comprehension and written language	Foot of the left third frontal circumvolution, often extending to fronto-parietal operculum and insula
Pure retrograde amnesia		Isolated retrograde amnesia with normal or disproportionately better anterograde memory abilities	Medial temporal lobes (including hippocampi), dorsomedial thalamic nucleus, mamillar bodies, medial nuclei of septum
Quadrantanopsia	Quadrantanopia	Blindness over half a quarter of field of vision due to brain damage	Postchiasmatic areas

Condition	Other names	Description	Associated brain structures
Reduplicative paramnesia		Delusional belief involving the idea of being in places which have been duplicated or relocated somewhere else	Bilateral or right frontal regions (Politis & Loane, 2012)
Retrograde amnesia		Inability to recall remote information	Medial temporal lobes (including hippocampi), dorsomedial thalamic nucleus, mamillar bodies, medial nuclei of septum
Scotoma		Small partial alteration in the field of vision due to brain damage	Postchiasmatic areas
Semantic dementia (SD)	Semantic variant PPA (svPPA)	Temporal variant of FTD characterised by loss of both verbal and non-verbal semantic memory, fluent aphasia, associative visual agnosia, anomia	Frontal and temporal lobes (mainly temporal)
Simultanagnosia	Simultagnosia	Inability to perceive more than a single object at a time (cf. Arcimboldo's paintings)	Occipito-parietal regions (dorsal variant), left temporo-occipital regions (ventral variant; (Coslett & Lie, 2008)
Somatoparaphrenia		Monothematic delusion where a patient adamantly denies ownership a limb and/or side of the body	Fronto-parietal regions (especially orbitofrontal; (Feinberg, Venneri, Simone, Fan, & Northoff, 2010) insula
Source amnesia		Inability to remember where, when or how previous information has been acquired, while retaining the factual knowledge	Frontal lobe

Condition	Other names	Description	Associated brain structures
Spatial dyscalculia		Deficit of calculations due to spatial displacements of digits and misalignment of columns	Right parietal regions (often associated with hemispatial neglect)
Stroke	Cerebrovascular accident (CVA) Apoplexy Apoplectic attack	Rapid development cerebral functions impairment which lasts for *24 hours or longer* (cf. TIA), with only apparent cause being a vascular origin	N/S
Subacute sclerosing panencephalitis (SSPE)		Onset during childhood or adolescence, mood and personality changes, irritability, generalised cognitive impairment, jerking movements of the head, trunk or limbs (myoclonic jerks)	N/A (caused by defective variants of measle virus; (Fisher, Defres, & Solomon, 2015)
Supernumerary phantom limb		Perception of supernumerary limbs characterised by vivid sensory information	Right parietal regions
Surface dysgraphia		Deficit of writing and spelling of irregular words, automatic regularisations with phonologically plausible errors	Left angular gyrus
Surface dyslexia		Deficit of reading of irregular words, automatic regularisations with phonologically plausible errors	Anterolateral temporal regions
Tactile agnosia	Astereognosis	Deficit of recognition of objects through touch	Parietal/parieto-temporo-occipital regions and dorsal column

Condition	Other names	Description	Associated brain structures
Tactile anomia		Deficit of naming of objects through touch, generally only for the left hand	Central part of corpus callosum
Topographic agnosia	Topographagnosia Topographical disorientation	Deficit of recognition of buildings and places	Medial occipito-temporal regions (lingual and fusiform gyri)
Topographic amnesia		Inability to recall familiar routes	Parahippocampal gyrus, regions of right posterior cerebral artery
Transcortical motor aphasia (TMA)	Commissural dysphasia	Reduction of initiation and maintenance of spontaneous verbal and written language	Anterior superior frontal lobe
Transcortical sensory aphasia (TSA)		Deficit of comprehension with relatively intact repetition, semantic paraphasias, echolalia	Inferior left temporal lobe
Transient epileptic amnesia (TEA)		Sudden temporary loss of memory *due to epileptic seizures* (cf. TGA)	
Transient global amnesia (TGA)		Sudden temporary loss of memory similar to global amnesia, *not attributed to neurological causes* (cf. TEA), self-resolving within 24 hours	N/A
Transient ischemic attack (TIA)		Rapid development of impairment of cerebral functions which lasts *less than 24 hours* (cf. stroke), with only apparent cause being a vascular origin	N/S

Condition	Other names	Description	Associated brain structures
Traumatic brain injury (TBI)[5]		Damage to brain tissue due to the effects of CHI and PHI	N/S
Trunk apraxia		Deficit of axial movements of the trunk	Frontal lobes
Utilisation behaviour		Tendency to automatically manipulate objects, starting the appropriate utilisation behaviour at inappropriate times	Anterior cingulate gyrus, medial prefrontal cortex, anterior corpus callosum (cf. alien hand syndrome)
Vascular dementia		Relatively sudden onset, stepped progression, emotional lability, memory impairment, neurological focal signs, depression, walking difficulties, incontinence, hallucinations, delusions	Depending on location of reduced blood flow (e.g., stroke); likely multiple contributing factors and cumulative effects of strokes/circulatory problems; potential white matter involvement
Visual agnosia		Deficit of recognition of visually presented objects	Inferior occipito-temporal regions
Visual extinction		Inability to identify stimuli from the contralesional side of one own's space when presented simultaneously with stimuli on the ipsilesional side – part of hemispatial neglect symptomatology	Right parietal regions

[5] While TBI is by definition a form of ABI (but not vice versa), some authors use TBI and ABI as interchangeable terms (Lezak et al., 2012).

Condition	Other names	Description	Associated brain structures
Visuo-spatial STM impairment		Limited immediate memory span for visuo-spatial information (e.g., visual movement sequences)	Right temporo-parieto-occipital regions
Wernicke's aphasia		Deficit of naming, repetition, and comprehension, fluent speech that does not make sense	Mid-posterior tract of the first temporal circumvolution (Wernicke's area)

Acronyms and Abbreviations

AA	Apraxic agraphia
ABI	Acquired brain injury
AD	Alzheimer's disease
AHS	Alien hand syndrome
ALF	Accelerated long-term forgetting
ALS	Amyotrophic lateral sclerosis
AVA	Auditory visual agnosia
BSE	Bovine spongiform encephalopathy
bvFTD	Behavioural variant of FTD
CBD	Cortico-basal dementia
CHI	Closed head injury
CJD	Creutzfeldt-Jacob disease
CSF	Cerebrospinal fluid
CTE	Chronic traumatic encephalopathy
CVA	Cerebrovascular accident
DES	Dysexecutive syndrome
DLB	Dementia with Lewy bodies
FTD	Frontotemporal dementia
FTLD	Frontotemporal lobar degeneration
HAND	HIV-associated neurocognitive disorder
HD	Huntington's disease
HIV	Human immunodeficiency virus
HSAM	Highly superior autobiographical memory (hyperthymesia)
HSV-1	Herpes simplex virus-1
IA	Ideational apraxia
IMA	Ideomotor apraxia
LBD	Lewy body dementia
MND	Motor neuron disease
MS	Multiple sclerosis
N/A	Not applicable
N/S	Non-specific (i.e., involving many possible areas)
NPH	Normal pressure hydrocephalus
OBE	Out-of-body experience
OMA	Oculomotor apraxia
PBA	Pseudobulbar affect
PCA	Posterior cortical atrophy
PD	Parkinson's disease
PDD	Parkinson's disease dementia
PHI	Penetrative head injury
PPA	Primary progressive aphasia
PPC	Posterior parietal cortex
PSP	Progressive supranuclear palsy

PTA	Post-traumatic amnesia
SAE	Subcortical arteriosclerotic encephalopathy
SD	Semantic dementia
SSPE	Subacute sclerosing panencephalitis
STM	Short-term memory
svPPA	Semantic variant PPA (semantic dementia)
TBI	Traumatic brain injury
TEA	Transient epileptic amnesia
TGA	Transient global amnesia
TIA	Transient ischemic attacks
TMA	Transcortical motor aphasia
TSA	Transcortical sensory aphasia (TSA)
V1	Primary visual cortex
vCJD	Variant CJD (mad cow disease)

Resources

Beaumont, J. G. (John G., Kenealy, P. M., & Rogers, M. J. C. (Eds.). (1999). *The Blackwell Dictionary of Neuropsychology*. Cambridge, MA: Blackwell.

Gurd, J. M., Kischka, U., & Marshall, J. C. (Eds.). (2010). *Handbook of Clinical Neuropsychology.* Oxford: Oxford University Press.

Horton, A. M., & Hartlage, L. C. (Eds.). (2010). *Handbook of Forensic Neuropsychology*. New York: Springer Pub. Co.

Kreutzer, J., DeLuca, J., & Caplan, B. (Eds.) (2010). *Encyclopedia of Clinical Neuropsychology*. New York: Springer.

Lezak, M. D., Howieson, D. B., Bigler, E. B., & Tranel, D. (2012). *Neuropsychological Assessment*. New York: Oxford University Press.

Schoenberg, M. R., & Scott, J. G. (Eds.) (2011). *The Little Black Book of Neuropsychology*. New York: Springer Science & Business Media.

Squire, L., Bloom, F. E., Spitzer, N. C., Squire, L. R., Berg, D., du Lac, S., & Ghosh, A. (Eds.). (2008). *Fundamental Neuroscience* (3rd ed.). San Diego, USA: Academic Press.

Strauss, E., Sherman, E. M. S., & Spreen, O. (2006). *A compendium of neuropsychological tests: Administration, norms, and commentary* (3rd ed.). New York: Oxford University Press.

Wanlass, R. L. (2012). *The Neuropsychology Toolkit*. New York: Springer Science & Business Media.

References

Blanke, O., & Mohr, C. (2005). Out-of-body experience, heautoscopy, and autoscopic hallucination of neurological origin: Implications for neurocognitive mechanisms of corporeal awareness and self-consciousness. *Brain Research Reviews*, *50*(1), 184–199. https://doi.org/10.1016/j.brainresrev.2005.05.008

Casalone, C., & Hope, J. (2018). Atypical and classic bovine spongiform encephalopathy. In *Handbook of Clinical Neurology* (Vol. 153, pp. 121–134). https://doi.org/10.1016/B978-0-444-63945-5.00007-6

Chaudhry, F. B., Raza, S., & Ahmad, U. (2019). Anton's syndrome: A rare and unusual form of blindness. *BMJ Case Reports*, *12*(12), 1–5. https://doi.org/10.1136/bcr-2018-228103

Cipriani, G., Vedovello, M., Ulivi, M., Lucetti, C., di Fiorino, A., & Nuti, A. (2013). Delusional misidentification syndromes and dementia: A border zone between neurology and psychiatry. *American Journal of Alzheimer's Disease and Other Dementias*, *28*(7), 671–678. https://doi.org/10.1177/1533317513506103

Conchiglia, G., della Rocca, G., & Grossi, D. (2007). On a peculiar environmental dependency syndrome in a case with frontal-temporal damage: Zelig-like syndrome. *Neurocase*, *13*(1), 1–5. https://doi.org/10.1080/13554790601160558

Coslett, H. B., & Lie, G. (2008). Simultanagnosia: When a rose is not red. *Journal of Cognitive Neuroscience*, *20*(1), 36–48. https://doi.org/10.1162/jocn.2008.20002

Elliott, G., Isaac, C. L., & Muhlert, N. (2014). Measuring forgetting: A critical review of accelerated long-term forgetting studies. *Cortex*, *54*(1), 16–32. https://doi.org/10.1016/j.cortex.2014.02.001

Feinberg, T. E., Venneri, A., Simone, A. M., Fan, Y., & Northoff, G. (2010). The neuroanatomy of asomatognosia and somatoparaphrenia. *Journal of Neurology, Neurosurgery and Psychiatry*, *81*(3), 276–281. https://doi.org/10.1136/jnnp.2009.188946

Ferrari, R., Kapogiannis, D., Huey, E. D., & Momeni, P. (2011). FTD and ALS: a tale of two diseases. *Current Alzheimer Research*, *8*(3), 273–294. https://doi.org/10.2174/156720511795563700

Fisher, D. L., Defres, S., & Solomon, T. (2015). Measles-induced encephalitis. *Qjm*, *108*(3), 177–182. https://doi.org/10.1093/qjmed/hcu113

Jansari, A. S., Davis, K., McGibbon, T., Firminger, S., & Kapur, N. (2010). When "long-term memory" no longer means "forever": analysis of accelerated long-term forgetting in a patient with temporal lobe epilepsy. *Neuropsychologia*, *48*(6), 1707–1715. https://doi.org/10.1016/j.neuropsychologia.2010.02.018

LePort, A. K. R., Mattfeld, A. T., Dickinson-Anson, H., Fallon, J. H., Stark, C. E. L., Kruggel, F., … McGaugh, J. L. (2012). Behavioral and neuroanatomical investigation of Highly Superior Autobiographical Memory (HSAM). *Neurobiology of Learning and Memory*, *98*(1), 78–92. https://doi.org/10.1016/j.nlm.2012.05.002

Lezak, M. D., Howieson, D. B., Bigler, E. B., & Tranel, D. (2012). *Neuropsychological Assessment*. New York: Oxford University Press.

Liberski, P. P., Sikorska, B., Lindenbaum, S., Goldfarb, L. G., McLean, C., Hainfellner, J. A., & Brown, P. (2012). Kuru: Genes, cannibals and neuropathology. *Journal of Neuropathology and Experimental Neurology*, *71*(2), 92–103. https://doi.org/10.1097/NEN.0b013e3182444efd

McKay, G. C. M., & Kopelman, M. D. (2009). Psychogenic amnesia: When memory complaints are medically unexplained. *Advances in Psychiatric Treatment*, *15*(2), 152–158. https://doi.org/10.1192/apt.bp.105.001586

Mojtabai, R. (1994). Fregoli syndrome. *Australasian Psychiatry*, *28*(3), 458–462. https://doi.org/10.3109/00048679409075874

Parker, E. S., Cahill, L., & McGaugh, J. L. (2006). A case of unusual autobiographical remembering. *Neurocase*, *12*(1), 35–49. https://doi.org/10.1080/13554790500473680

Politis, M., & Loane, C. (2012). Reduplicative paramnesia: A review. *Psychopathology*, *45*(6), 337–343. https://doi.org/10.1159/000337748

Rizzo, M., & Vecera, S. P. (2002). Psychoanatomical substrates of Bálint's syndrome. *Journal of Neurology Neurosurgery and Psychiatry*, *72*(2), 162–178. https://doi.org/10.1136/jnnp.72.2.162

Sinkman, A. (2008). The syndrome of Capgras. *Psychiatry*, *71*(4), 371–378. https://doi.org/10.1521/psyc.2008.71.4.371

Stein, T. D., Alvarez, V. E., & McKee, A. C. (2014). Chronic traumatic encephalopathy: A spectrum of neuropathological changes following repetitive brain trauma in athletes and military personnel. *Alzheimer's Research and Therapy*, *6*(1), 1. https://doi.org/10.1186/alzrt234

Whitley, R. J. (2006). Herpes simplex encephalitis: Adolescents and adults. *Antiviral Research*, *71*(2-3 SPEC. ISS.), 141–148. https://doi.org/10.1016/j.antiviral.2006.04.002