Index

10–20 system, 95, 127–9
ABA design, 181–2
acetylcholine, 102–3
acoustic displays, biofeedback techniques, 160–1, 196
acoustic stimuli patterns, see also orienting responses
EDA, 99–100, 111, 154–5, 166–7, 168
unpleasant acoustic stimuli experiments, 23–5, 99–100, 111, 154–5, 166–7, 168
AcqKnowledge software from BIOPAC Systems Inc., 104
action plans, 40–1
addictions, 25, 119, 141, 187–8, 190, 191, see also alcohol . . . ; drug dependency
neurofeedback, 187–8
psychofeedback, 190, 191
QEDA, 138, 141
treatments, 187–8, 190, 191
ADHD see attention deficit hyperactivity disorder
Adler, A., 36
adrenaline
EDA, 99–100, 101–2, 112–15
monoamines, 77–8
advising the patient about QEDA, 136, 137–8, 149, 167, 169–70
affective systems, 42–4
age factors
dementias, 126–9
EDA, 109–11, 137
agaphobia, 190
Agrigento, 197
alcohol EDA effects, 112
alcoholics, 145, 187–8, see also addictions
neurofeedback, 187–8
treatments, 187–8
ALETEIA International, 138, 151, 173–4, 197
alpha waves, 87–95, 128–9, 131–4, 172–3, 180–8, see also neurofeedback
definition, 87–8
training efforts, 180, 184–6, 187–8
alprazolam, 114, 117
EDA effects, 114
Alster training, 192
Alzheimer’s disease, 126–9, see also dementia
American Psychiatric Association, 116, see also Diagnostic and Statistical Manual of Mental Disorders
amino acids, 77–8
amisulpride, 117
Ammaniti, Massimo, 36–7
amplitude EEG variables, 88–9, 127–34
amygdala, 41, 42–4, 45, 50–1, 57, 59, 62, 101–2, see also emotions
analog internal representational systems see iconic (analog) internal representational systems
Andreassi’s psychophysiology concepts, 83–5
animals, 18, 37–69, 70–9
evolutionism, 70–9
mind–brain problems, 18, 37
anorexia, 47, 119, 138, 141, 191
ANS (autonomic nervous system), 7, 9–10, 44, 46–7, see also visceral brain
anterior limbic structures, 101–2
anti-epileptic drugs (mood stabilizers), see also carbamazepine; sodium valproate; valproic acid
EDA effects, 112, 115
anti-Parkinsonian drugs, 112
anticholinergic substances, 102, 112–15
antidepressants, 112, 115, 132–3, see also SSRIs . . . ; tricyclic . . .
EDA effects, 112, 115
© 2012 John Wiley & Sons, Ltd. Published 2012 by John Wiley & Sons, Ltd.
anxiety, 9, 25, 51, 83–4, 88, 98–100, 108–11, 112–15, 137–43, 166–70, 180–8, 190–3, see also alpha waves; theta waves
EDA results, 108–11, 112–15, 137–43
QEDA, 137–43
anxiolytics, 113–14
apophania, 19
archipallium, 76, 170
areas 39 and 40 of the left hemisphere, 72
Argentina, 146
Aristotle, 11–13
arousal effects, 23–6, 99–100, 111, 112, 140–4, 152–5, 167, 168, 171–4, 175, 181–3, 192, 196, see also defensive responses
families, 152–5
meditation, 173–4, 175
unpleasant acoustic stimuli experiments, 23–5, 99–100, 111, 154–5, 166–7, 168
artifacts EEG variables, 90–1, 93, 131–4
artificial intelligence, 15–16
aspartic amino acid, 77–8
associations, 20–6, 27
asthma, 178
Atlantis II QEEG hardware from BrainMaster, 93, 116, 120–1, 126, see also QEEG . . .
attentions, 45, 95, 99–100, 133, 138, 141–2, 172, 175–9, 186–7, 190, 192, see also concentration . . .; focus
mindfulness, 172, 175–9
attention deficit hyperactivity disorder (ADHD), 45, 95, 99–100, 133, 138, 141–2, 186–7, 190, 192
EDA, 45, 95–100, 138, 141–2
neurofeedback, 186–7
psychofeedback, 190, 192
QEDA, 138, 141–2, 190, 192
QEEG, 133
treatments, 133, 186–7, 190, 192
auditory feedback, 126–7, 183–4, 192
autism, 9
autobiographical self, 65–6
autonomic brain, 13
autonomy aspects of mindfulness, 176–7
autopoiesis, complex systems theory, 31–2, 64–5
avoidance tactics, 167–8, see also defensive responses
awareness aspects of meditation, 171–9
Baccheia protocol, 190, 191
Basaglia's work, 146
Batson's concepts, 52
BBM see Biofeedback-Based Mindfulness
Beck's concepts, 66–7, 118
behavioral movement, historical background, 14–15, 36, 53, 156, 158–62, 189–90
behavioral neuroscience, 9, 85, 156–62, 189–90, 192
belief systems, 25–6, 166–7
Bennet and Bennet's model of tacit knowledge, 57
benzodiazepines, 113–14, 139, 182
Berger, Hans, 86
beta waves, 87–95, 128–9, 133, 172–3, 180–8, see also craving; depression; neurofeedback concepts, 87–9, 95, 172–3, 180–8
definition, 87–8
meditation, 172–3
training efforts, 187–8
beta-blockers, EDA effects, 112–13
Bettelheim's narrative concepts, 67–8
Betty's concept, 52
BioExplorer, 104, 138
biofeedback, 19, 103, 156–70, 177–9, 183–6, 192–3, 196
cognitive therapy, 165–70
concepts, 156–70, 183–6, 192–3
definition, 156–7, 163–4
development stages, 158–9
historical background, 158–9
interpretation aspects, 161–2
MindLAB Set system coping skills training, 168–70
goals, 156–7
objectives, 156–7
physiological biofeedback, 163–5
psychophysiological feedback, 163–5
relaxation, self-control, self-regulation, 168–70
technical components, 160–1
therapeutic dynamic factors, 167–8
training phases, 166–7
Biofeedback Society of Italy, 158, 164
Biofeedback-Based Mindfulness (BBM), see also mindfulness
concepts, 19, 104, 177–9
MindLAB Set system, 178, 193
practical directions, 179
biocybernetic models of the mind, 20–6, 37–8, 55, 159–60
BioExplorer, 104, 138
biofeedback, 19, 103, 156–70, 177–9, 183–6, 192–3, 196
cognitive therapy, 165–70
concepts, 156–70, 183–6, 192–3
definition, 156–7, 163–4
development stages, 158–9
historical background, 158–9
interpretation aspects, 161–2
MindLAB Set system coping skills training, 168–70
goals, 156–7
objectives, 156–7
physiological biofeedback, 163–5
psychophysiological feedback, 163–5
relaxation, self-control, self-regulation, 168–70
technical components, 160–1
therapeutic dynamic factors, 167–8
training phases, 166–7
Index

219

evolutionism, 70–9
gradiental model, 37–41, 42–51, 59–69, 71–9, 125–34
information coding, 57–9
lesions, 40–1, 129–32
modular model, 35–41, 45, 59–69, 75–9
paleognosis/neognosis in the mind, 47–9
phylogenesis of the brain, 47, 53, 70–9
tripartite brain, 75–6
BrainMaster, 93, 116, 120–1, see also Atlantis II
QEEG hardware...
brainstem, 39–40
Brazil, 146
breathing, meditation techniques, 172–3
Brener’s theory, 161
bruxism therapy, 164
Buddhism
meditation, 172–3
mind–brain problems, 12
bulimia, 47, 119, 138, 141, 191
butterfly wings, complex systems theory, 30
C3 place, 95
C4 place, 95
Canada, 146
cancer, 28–9
Capscan-80 by Expanded Technologies, 95
carbon dioxide, anti-epileptic, 115
cardinogenesis, 28–9
cardiology, 178
cardiovascular disease, 45, 178
CAT (computerized axial tomography), 7
Catania, 107–8, 197
catecholamines, 99–100, 101–2, see also adrenaline; noradrenaline
categorical approaches to diagnoses, see also Diagnostic and Statistical Manual of Mental Disorders; International Classification of Diseases
critique, 116–18
Caton, Richard, 86
caudate nucleus, 62
CGT see complex cognitive therapy
Center for Cognitive Studies at Tufts University, 15
cerebellum, 39–40
cerebral cortex, 38–41, 180
cerebral morphological imaging techniques, mindfulness, 176–7
cerebral networks, 85, 120, 160, 176–9
Chalmers, David J., 16
chaos theory, 27–34, 38–41, see also complexity concepts, 29–30, 38–41
historical background, 30
schizophrenia, 33–4
charioter metaphor, mind–brain problems, 12
chemical mediators, see also amino acids; monoamines; neuropeptides
the brain, 77–8
Chiari and Mosticomi’s work, 165–6
childhood
ADHD, 45, 93, 99–100, 133, 138, 141–2, 186–7, 190, 192
electrical waves, 87–8
language development, 71–2
narrative concepts, 67–8
self-consciousness characteristic, 72
synapses, 130–1
chlorpromazine neuroleptic, 114
Christianity, 12, 18
chronicity theory, complex systems theory, 34
cingulate cortex, 42–3
cingulated gyrus, 95
Clark’s panic concepts, 54
Claustus’s second principle, 29–30
clinical psychology, 5–10, 17, 85, 120–1, 125–34, 189–93
clinical psychophysiology, 85, 120–1, 125–34, 138–44, 151, see also psychophysiology
definition, 85
Cloninger’s model, 78
clothes, sets and settings, 145–6
concepts, 44–7, 65–6, 87, 101–2, 125, 170
EDA regulators, 101–2
mindfulness, 176
coalitional mind, 35, 38–41, 59, 62–9, 78–9, 119, see also self concepts
cocaine, 188
coffee, 112
cognitive dissonance, 167–8
cognitive evaluations, 22–6
cognitive neuroscience, 9
cognitive processes, 36, 48–51, 72–3, 97–8, 127–9, see also attention; executive functions; language; memory; perceptions
self-consciousness characteristic, 72–9
Cognitive Processes and Emotional Disorders (Guidano and Liotti), 56–7
cognitive psychology, 7, 189–90
cognitive therapy (CT), 5–10, 27, 32–4, 43–4, 53–4, 95, 137–44, 145–51, 156, 165–70, 180–8, 189–93, 194–6, 197–8, see also chaos concepts, complexity...; constructivist cognitivism; dynamical systems; motor theories... biofeedback concepts, 165–70
cognitive complexity, chaos, and dynamical systems, 32–4, 35–7, 43–4, 53–4, 156–70
getting started, 197–8
imagery, 53–4
neurofeedback, 180–8
psychofeedback, 189–93
sets and settings, 145–51
training resources, 197–8
cognitivist models, 17–18, 20–6, 27, 35–6, 43–4, 54–62, 67–9, 118–19, 156–70
Coherence and Squire’s memory concepts, 49–50
coherence EEG variables, 89, 127–34
Index

collective unconscious, 53, 56–7
colon, 46–7, see also digestive tract
coma, 87
complex, morphology EEG variables, 89
complex biocybernetic models of the mind, 20–6, 37–8, 55, 159–60
complex cognitive therapy (CCT), 43–4, 51, 53–4
complex psychological diagnosis, 9–10, 11–19, 23–5, 116–21, 125–34, 135–44
concepts, 9–10, 11–19, 23–5, 116–21, 125–34, 135–44
neuroscience uses, 9–10, 11–19, 23–5, 116–21, 125–34, 135–44
QEDA, 135–44
QEEG, 116, 120, 125–34, 142
complex systems theory
concepts, 30–2, 43–4, 64–9, 78–9, 156–70, 189–90
important characteristics, 30–1
psychotherapy, 30–4, 35–7, 43–4, 53–4, 156–70
complexity theories, 7, 27–34, 35–7, 43–4, 56–7, 68–9, 78–9, 156–70
concepts, 27–9, 34, 56–7, 68–9, 78–9
historical background, 28–9, 156
computer science advances, 146–51, 158–9, 195
computer systems metaphor, mind–brain
problems, 19
countertransference, 37
craving, 188, see also addictions; beta waves
Crick, Francis, 15
critical functions of language, 71–9
CT (computed tomography), 7–8, 30, 95, 104
cultural evolutionism, 70–9
cybernetics, 21–6, 55, 159–60
Cz place, 95
Damadian, Rayon, 7
Damasio, Antonio, 65–6
Darwin, Charles, 13–14, 15, 70
database QEEG reference criteria, 92–3, 107–11
dehat, 28–9
decimalized control and regulation system, 38–41, 78–9
declarative (explicit) memory, 49–51, 60
definition, 26, 66
dementia, see also Alzheimer’s disease
QEEG, 126–9
Democritus, 11–12
Dennett, Daniel, 15
deoxyhemoglobin, 8–9
depression, 9, 52–3, 66, 83–4, 101, 109, 113, 118, 132–4, 138, 140, 177–8, 180–8, 190, 191,
see also beta waves
imagination, 52–3
mind-set, 177–8
mindfulness treatments, 177, 178
neurofeedback, 180, 182, 187
psychofeedback, 190, 191
QEDA, 138, 140, 190, 191
QEEG, 132–4
relapses, 177
treatments, 115, 132–3, 187, 190, 191
Derometer, 103
descriptive functions of language, 71–9
desensitization, 53, 165–70
detachment aspects of mindfulness, 178–9

deterministic aspects of psychotherapy, 29, 33, 34, 146
developmental neuroscience, 9, 20–6
diachronic analog (record) visual displays, biofeedback techniques, 161
diachronic mind, 70–9, 161, 177–8, see also mindfulness
diagnoses, 9–10, 11–19, 23–5, 116–21, 125–34, 135–44, 151, see also categorical . . .
constructivist . . . ; dimensional . . . ;
structural . . .
Index

221

complex psychological diagnosis, 9–10, 11–19, 23–5, 116–21, 125–34, 135–44
concepts, 116–21
QEDA, 135–44
QEEG, 116, 120, 125–34
Diagnostic and Statistical Manual of Mental Disorders (DSM), 116–17, 131–2, 184
axes, 117
critique, 116–17
DSM III, 116–17
DSM IV, 131–2
DSM IV-TR, 184
objectives, 117
dialogical processes, 51, see also Socratic questioning
digital (internal dialog) internal representational systems, 52, 53, 54, 56–9, 166–70
conds, 54, 57–9, 167–70
digital recording of EDA, 85
dimensional approaches to diagnoses, critique, 117–18
direct feedback, definition, 164–5
disorder/order, complexity theories, 7, 27–34, 56–7, 68–9
displays, biofeedback techniques, 160–1, 196
discussion, 25
DNA, 70–1
dogs, 18
dopamine, monoamines, 77–8
dreams, 36, 56–7
drug dependency, see also addictions; alcoholics; cocaine; heroin; metamphetamine
dysfunctional knowledge patterns, 119–20, see also constraints; functional diagnosis
dysfunctional parents, 19, 152–5"dysthymia", 117
eating disorders, 46–7, 53, 54, 118, 138, 141, 190, 191, see also anorexia; bulimia
internal dialogs, 54
psychofeedback, 190, 191
DSM see Diagnostic and Statistical Manual of Mental Disorders
Duffy et al. QEEG research, 91–2
dynamical systems, 27–34, 35–8, 157–70
dysfunctional knowledge patterns, 119–20, see also constraints; functional diagnosis
dysfunctional parents, 19, 152–5
EDF
EEG (electroencephalography), 7, 9–10, 85, 86–95, 107, 112, 116, 120, 125–34, 138, 149–51, 158, 164, 165, 172–3, 181–8, 197–8, see also electrical waves
artifacts, 90–1, 93, 131–4
critique, 95
dementias, 126–9
historical background, 86–7
meditation, 88, 172–3
neurofeedback, 181–8
popularity, 7, 9–10
psychotropic drugs, 112
training resources, 197–8
variables, 87–91, 127–34
ego, 35–6, 37, 41–2
electrical cables, artifacts EEG variables, 91
electrical waves, 86–95, 128–34, 172–3, 180–8, see also alpha . . . ; beta . . . ; delta . . . ; EEG . . . ; QEEG . . . ; theta . . .
childhood, 87–8"electrodermal activity", definition, 98–9
electrodes, 91, 127–34, 148–51, 160–1
artifacts EEG variables, 91, 131–4
sensors, 148–9
shock treatments, 149, 159
EMG (electromyography), 90–1, 138, 158, 164, 165
antidepressants, 112, 115
BBM, 104, 177–8, 193
benzodiazepines, 113–14, 139
beta-blockers, 112–13
complex psychological diagnosis, 135–44
coping skills training, 168
critique, 95
digestive tract, 46–7
families, 152–5
habituation processes, 100, 111
historical background, 102–3
meditation, 173–5, 193
mindfulness, 177–9
euroleptics, 114
popularity, 7, 9–10
processes, 96–103, 154–5
psychostimulants, 111–15
psychotheraphy early uses, 103
recording methods, 96–103
reference database, 92–3, 107–11
regulators, 101–2
tonic EDA, 100–4, 112–13, 135
training resources, 197–8
unpleasant acoustic stimuli experiments, 23–5, 99–100, 111, 154–5, 166–7, 168
uses, 95, 103, 135–44, 149–51, 152–5, 158, 164, 195–6
Edelberg, R., 99
Edelman, Gerald, 15
EEDRs (evoked electrodermal responses), 111
EEG (electroencephalography), 7, 9–10, 85, 86–95, 107, 112, 116, 120, 125–34, 138, 149–51, 158, 164, 165, 172–3, 181–8, 197–8, see also electrical waves
artifacts, 90–1, 93, 131–4
critique, 95
dementias, 126–9
historical background, 86–7
meditation, 88, 172–3
neurofeedback, 181–8
popularity, 7, 9–10
psychotropic drugs, 112
training resources, 197–8
variables, 87–91, 127–34
ego, 35–6, 37, 41–2
electrical cables, artifacts EEG variables, 91
electrical waves, 86–95, 128–34, 172–3, 180–8, see also alpha . . . ; beta . . . ; delta . . . ; EEG . . . ; QEEG . . . ; theta . . .
childhood, 87–8"electrodermal activity", definition, 98–9
electrodes, 91, 127–34, 148–51, 160–1
artifacts EEG variables, 91, 131–4
sensors, 148–9
shock treatments, 149, 159
EMG (electromyography), 90–1, 138, 158, 164, 165
Index

gamma-aminobutyric amino acid, 77–8
gastroenterology, 46–7, 178, see also digestive tract
generalized anxiety disorder (GAD), 100, 138, 139
genetics, 120
genocide, Neanderthals, 72–3
Gestalt psychotherapists, 189
Gevensleben et al. ADHD study, 186–7
Giroldini, Villiam, 93
glucose levels, 8
 glutamic amino acid, 77–8
gnosiological limits of the brain, 16
Goldberg, T.E., 38
Goleman’s meditation evaluations, 171
gradiental model of the brain, 37–41, 42–51, 59–69, 71–9, 125–34
Greek philosophers, 11–13, 28–9, 83–4, 107–8
Grobstein, Paul, 5
group therapy, 51
GSR Recorder, 104, 138
Guidano’s concept, 35–6, 41–4, 56–8, 63–6, 118–19
Gurdjieff self-remembering meditation techniques, 172
habituation processes, 100, 111
hallucinations, 25–6, 56, 66, 191, see also schizophrenia
definition, 26, 66
haloperidol neuroleptic, 114, 131–2
hands, 96–115, 136–44, 157–70
Hazan, Cindy, 42
hearing, 76–7
heart rates, 157–60
hemispheric specialization, 72, 75–6, 101–2
Heraclitus of Ephesus, 28–9
here-and-now aspects of mindfulness, 70, 79, 176–8
heroin, 188
hippocampus, 41, 42–4, 51, 59, 68–9, 101–2, 129, 177–8
historical background
mind–brain problems, 11–18, 83–5
neuroscience, 7–9, 14–15, 83–5, 86–95, 102–3, 146–51, 156
Hobbes, Thomas, 13
Homo erectus, 72, 73
Homo habilis, 72
Homo sapiens
 evolutionism, 72–9
intra-species competition/aggression qualities, 73
Hounsfield, Godfrey, 7
How the Self Controls Its Brain (Eccles), 16
human psyche, 11–12, 35–7, 55–7
Huxley, Thomas Henry, 13–15
Hyperhidrosis, 45
Hypertension, 142–3, 192
QEDA, 138, 142–3, 192
 treatments, 143, 192
Hypomania, 133, 141
hypothalamus, 13, 39–40, 41, 42–4, 59, 98, 169–70, see also emotions
“I know the past and foresee the future”, 66
“I-self (primary), 64–5
ICD see International Classification of Diseases
id, 35–6
imagination, see also iconic . . . ; internal representational systems
concepts, 52–4, 56, 184–8
imaging, definition, 7–8
immune system, 65–6
indirect feedback, definition, 164–5
information coding in the brain, 57–9
insomnia, neurofeedback, 180–3
Institute of Cognitive Sciences, University of Catania, 177–8
instructional modification phase of biofeedback training, 166–8
instrumental psychodiagnostics, definition, 120–1, 138, 151
integration aspects of meditation, 171–9
inter-hemispheric synchronization, 101–2, 128–9, 130–4, 172–3, 191, see also coherence . . .
meditation, 172–3
interactionist dualism, historical background, 14–16
internal dialog, 52, 53, 54, 56–9, 166–70
internal representational systems, see also digital . . . ; iconic . . . ; memory concepts, 51–4, 57–9
International Association for Cognitive Psychotherapy (ICCP), 197
International Association for Neuroscience-based Cognitive Therapy, 197
International Classification of Diseases (ICD), 117
The Interpretation of Dreams (Freud), 36
intra-species competition/aggression qualities, Homo sapiens, 73
ipomania, 133
irreversibility dimension, complexity theories, 29–34
irritable bowel syndrome (IBS), 46–7, 138, 143, 192
Islam, 12, 18
Italian Cognitive Therapy, 55
Italy, 43–4, 55, 85, 145–51, 158–9, 165–6, 197–8
Jacobson’s muscular relaxation training, 165, 169
James, William, 64–5
Japan, 146, 148–9
Johnson and Lubin’s terminology, 98–9
Jung, Carl, 14, 36, 41–2, 53, 55–6, 103, see also psychoanalytical theories; psychodynamic theories
Kabat-Zinn, John, 176–7
Kandel, Erik, 10, 14
Kappeler-Setz et al. methodology, 196
Katane EDA reference database, 107–11, 137, 138
Index

Knowledge, 54–62, 64–9, 74–6, 77–9, 118–19, 158–70, 183–6, see also explicit . . .; Machiavellian . . .; procedural . . .; schemas; tacit . . .
concepts, 54–62, 64–9, 74–6, 77–8, 163–4, 166–70
definition, 54
evolutionism, 74–6, 77–9
process/content distinctions, 54–5
Kosslyn's approach, 52
Krishnamurti self-awareness meditation techniques, 172
language, 40–1, 69, 71–9
colloquy, 71, 77–9
evolutionism, 71–2, 77–9
rational/narrative contrasts, 69
Kosslyn's approach, 52
Krishnamurti self-awareness meditation techniques, 172
Lazarus's concepts, 166–7
learning through operant conditioning, 158–62
LéDoux's memory concepts, 50
left anterior prefrontal lobe, evolutionism, 75–6
left hemisphere in schizophrenic patients, 129–32
Lenin, 162
lesions, effects, 40–1, 129–32
libido theory, 36
life and death, complexity theories, 28–9
limbic brain, tripartite brain concepts, 75–7
limbic circuits, 13, 39–41, 62, 75–7, 98, 101–2, 169–70, 177–8, see also emotions
links with other disciplines, neuroscience, 9–10, 17
Liotti, Gianni, 36–7, 42, 43–4, 55, 56–7
lobotomies, 145–6
long-term memory, concepts, 49–51, 59–61, 126–9
lorazepam benzodiazepine, 113–14, 139
mantras, 171–3
materialist concepts of the mind, 13–15
Maturana and Varela's theory of autopoiesis, 31–2, 56, 64–5
McCann, Colin, 16
me-self (object), 64–5
meaning, 56–7, 67–9, see also narrative; personal identity; self concepts
medial prefrontal cortical region, 176–7
meditation, 88, 171–9, 193, see also mindfulness
conclusions, 19, 175
definition, 171
EDA, 173–5, 193
experiments, 173–5
neuroscience, 172–9, 193
types, 171–5
Meichenbaum's concepts, 166–7
concepts, 48–51, 59–60, 101–2, 126–9
dementias, 126–9
emotions, 49–51
mental diseases, 6–7
mental disorders, 9–10, 11–19, 23–5, 46–7, 85, 86–7, 116–21, 125–34, 135–44, 189–93, see also autism; schizophrenia
diagnoses, 9–10, 11–19, 23–5, 116–21, 125–34, 135–44
etiology, 118–20, 189–90
psychofeedback, 189–92
mental flexibility, 127–9
metacognition, mindfulness, 176–7
metamphetamine, 188
methylphenidate, 192
Miccichè, Angela, 173
microelectronic advances, 146–51, 158–9, 195
Middlesex Hospital Questionnaire, 108–9
Miller, Galanter, and Pribram, 20–2
Miller's biofeedback demonstrations, 158–9
mind–brain problems, 9–10, 11–19, 83–5
animals, 18, 37
author's reflections, 17–19
computer systems metaphor, 19
concepts, 11–19, 83–5
conclusions, 17–19
developmental aspects, 18–19
future directions, 17–18
historical background, 11–18
neuroscience, 14–15, 17–19, 83–5
philosophers, 11–15, 83–5
The Mindful Brain (Siegel), 176–7
mindfulness, 19, 53–4, 172, 175–9, 191, 193, 196, see also imagery; meditation; synchronic mind training
autonomy aspects, 176–7
BBM, 19, 104, 177–9, 193
definition, 175–6
depression/OCD treatments, 177–9
de the diachronic mind, 70–9, 177–8
neuroscience, 19, 176–9
techniques, 19, 178–9
uses, 19, 53–4, 176–7, 178, 193, 196
MindLAB Set Home, 195–6

MindLAB Set Home, 195–6
Index

advising the patient, 136, 137–8, 149, 169–70
age factors, 109–11, 137
BBM, 178, 193
coping skills training, 168–70, 192–3, 195–6
data regarding specific clinical disorders, 139–44
Freud’s conjectural uses, 14
Jung’s machine, 14
sets and settings, 148–51
treatments, 137–44, 168–70, 178, 190–3
usage guidelines, 135–44, 149, 190–3, 195–6
MindSCAN QEDA software, 104, 111, 134–44, 151, 168, 173–4, see also QEDA...
MIndet NP-Q 10/20 QEEG tool, 93
Mini Mental State Examination (MMSE), 126–7
mirror neurons, 42–4
mirror, self-recognition, 72–3
Mobile Neuroscience Lab, 146, 148
modular model of the brain, 35–41, 45, 59–69, 75–9
monistic-type organic mind philosophy, 15–16
monoamines, 77–8
Monod fossil metaphor, 70
mood disorders, 53, 191, 196, see also anxiety; bipolar; depression
Morin, Edgar, 27–8
morphology EEG variables, 89, 93, 125–34
motor planning tests, 127–9
motor theories of the mind, 20–6, 27, 37–8, 40–4, 61, 142
movements, artifacts EEG variables, 90–1, 131–2
movie theater analogy, 51–2
MRI (magnetic resonance imaging), 7–8
multimodal assessments of family processes, 152–5, see also families
multivariate analysis of variance (MANOVA), 128
music therapy (passive listening), 193
mutations, evolutionism concepts, 70–9
myostatic system, 39–40
N200 wave, 181–2
narrative, 67–9, 139; see also personal identity; self concepts
definition, 67–8
QEDA, 139
Neaderthals, 72–3
negative emotions, 66, 167, 173
"negative entropy", 34, 43–4, 48, 54, 58–9, 62, 69, 119, 190; see also Entropy of Mind model
Negative Entropy protocol, 191
Neisser’s memory concepts, 49–50
neocortex, tripartite brain concepts, 75–6
neognosis in the mind, 47–9
neopallium, 77, 170
neural networks, 85, 176–9
neurofeedback, 95, 125, 133, 156–70, 180–8, 196, 197–8, see also alpha waves; beta waves; theta waves
addictions, 187–8
ADHD, 186–7
alcoholics, 187–8
cognitive therapy, 180–8
concepts, 156–70, 180–8, 197–8
definition, 180
depression, 180, 182, 187
insomnia, 180–3
mania, 187
OCD, 183–6
training resources, 197–8
Neurofeedback QEEG software, 95, 125, 133
Neuroguide QEEG software, 93, 125
neuroimaging, 7–9, 83–5, 86–95, 125–34; see also CT; EDA; EEG; fMRI; fNIR; functional; MRI; PET; QEEG; SPECT; structural...
historical background, 7–9, 83–5, 86–95, 156
NeuroLAB QEEG device, 93–5, 126, 127–9, 130–2, 146, 186
neuroelectrics, 112, 114, 131–2
neurology, 9
neuropathology, 9
neuropeptides, 77–8
neuropsychology, 7, 121, 125–34, 151
NeuroSCAN QEEG software, 95
coalitional mind, 35, 38–41, 59, 62–9, 78–9, 119
complex biocybernetic models of the mind, 20–6, 37–8, 55, 159–60
complex psychological diagnosis uses, 9–10, 19, 23–5, 35–7, 116–21, 125–34, 135–44
costs, 85, 93–5, 120
definition, 6–7, 9–10
getting started, 197–8
future directions, 8–9, 120–1, 138
gradential model of the brain, 37–41, 42–51, 59–69, 71–9, 125–34
historical background, 7–9, 14–15, 83–5, 86–95, 102–3, 146–51, 156
links with other disciplines, 9–10, 17
meditation, 88, 172–9, 193
mindfulness, 19, 176–9
modular model of the brain, 35–41, 45, 59–69, 75–9
motor theories of the mind, 20–6, 27, 37–8, 40–4, 61, 142
narrative, 68–9, 139
perceptions of professionals, 5–6
psychiatry links, 9–10
sets and settings, 145–51
training resources, 197–8
Index

neuroscience of human relations, 152–5
neurosurgery, 9
neurovegetative nervous system, 44–7, 158–9, see also ANS... PNS...
definition 44
NINCDS-ADRD criteria, 126
Nobel Prize winners, 7, 10, 14, 16
nonjudgmental aspects of mindfulness training, 178–9
nonquantitative (nonparametric) analyses, meditation, 174–5
nonspecific-skin conductance responses (NS-SCRs), 100–1, 113–15
noradrenaline, EDA, 99–100, 101–2, 112–15, 140–4
noradrenergic system, 77–8, 99–100
norepinephrine, monoamines, 77–8
NS-SCRs, see nonspecific-skin conductance responses
nucleus ambiguous, 45
obsessive compulsive disorder (OCD), 95, 100, 109–11, 118, 133–4, 138, 140, 178–9, 183–6, 190–1
mind-set, 177
mindfulness treatments, 178–9
neurofeedback, 183–6
psychofeedback, 190–1
QEDA, 138, 140
QEEG, 133–4, 183–6
rituals, 183–6, 190–1
treatments, 134, 178–9, 183–6, 190–1
occipital lobe, 40, 88
OCD see obsessive compulsive disorder
Ohmian’s conclusions, 152
one-channel EEG analysis, 95
online/offline elimination methods, artifacts EEG variables, 91
onset, schizophrenia, 130–1
ontogenesis of the mind, 47, 70–9
open systems, 30–4
optical brain imaging, 8–9, 120, see also fNIR... orbitomedial prefrontal cortex, 42–3
order, complexity theories, 7, 27–34, 36–7, 68–9, 119–20
order–disorder, expectation, control, see also obsessive...
functional diagnosis processes, 119–20
orienting responses, 23–5, 99–100, 101, 166–7, 168, see also acoustic stimuli patterns
definition, 99–100
unpleasant acoustic stimuli experiments, 23–5, 99–100, 166–7, 168
Ornstein, Robert, 38
oxyhemoglobin, 8–9
p-values, 109–11, 174–5, 185–6; see also Student’s t-tests
meditation, 174–5
pain management, 178
Paivio’s concepts, 52
paleognosis in the mind, 47–9
paleopallium, 76–7
Pancheri, Paolo, 36, 158–9, 164
panic attack disorder, 116–17, 138, 140, 190
psychofeedback, 190
QEDA, 138, 140
panic attacks, 54, 113, 116–17, 138, 140, 168–9, 190
parasympathetic vegetative nervous system, 44–5
parents, 19, 41–2, 45, 64–5, 67–8, 119, 152–5, see also families
parietal lobe, 40–1, 62, 87–8, 129, 133–4
the past, rumination dangers, 140, 176, 177–8, 191
patients
advising the patient about QEDA, 136, 137–8, 167, 169–70
sets and settings, 145–51
Pavlov, Ivan, 14–15, 46–7, 159
Peniston and Kulkovsky protocols, 187–8
Penrose, Roger, 15, 16
perceptions, 22–6, 51–69
Perna and Masterpasqua’s concept, 32–3
Perris, Carlo, 34, 43–4
Personal Efficiency Trainer, 104, 138
personal identity, 40–1, 56–7, 66–9, 163–4, 168–70
definition, 66–7
narrative, 67–9
self concepts, 66–7, 168–70
personality disorders, psychofeedback, 191
perspiration, EDA, 96–115, 136–44, 157–70
pessimistic proaction, 54, 167, 176, 177–8
PET see Personal Efficiency Trainer
PET (positron emission tomography), 8
pharmaceutical companies, critique, 116–17
pharmacodynamics, 112–15, 162–3
pharmacological treatments, 111–17, 132–3, 140, 162–3, 191
phasic electrodermal responses, 98–103, 112–15, 135, see also EDA...
phenothiazine compounds, 112
phobias, 43, 51, 109–11, 118, 119, 140
QEDA, 138, 140
phylogenesis of the brain, 47, 53, 70–9
physiological biofeedback, 163–5
Piaget, Jean, 19
pineal gland, 11
Pinel, Philippe, 189
placebos, 162–3, 182–3
planning, 40–1, 52–3, 101–2
Plans and the Structure of Behavior (Miller, Galanter, and Pribram), 20–2
Plato, 11–13, 14
pleasantness, positive outlook towards the future, see also depression
functional diagnosis processes, 119–20
PNS (peripheral nervous system), 7, 35, 44–7
see also neurovegetative...
Poincaré, Henri, 30
Polanyi’s knowledge concepts, 56–7
Polifemo protocol, 190, 191
Index

227

politics, 37–8
Polopoli, Katia, 130–1
Popper, Karl, 14–15, 17, 62–3, 74–5
positive emotions, 46–7, 172–3
positive state of mind, 19, 46–7, 176–9, 192
post-traumatic stress disorder (PTSD), 53, 138, 140
posterior cortical areas, 73
pre-motor cortex of the frontal lobe, 101–2
prefrontal cortex, 40, 60, 62, 73, 75–6, 130–2, 176–7
premenstrual syndrome, 139, 143, 192
prenatal health, 178
prerolandic sulcus, 40
primate
[148x537]evolutionism, 71–2, 75–6
mind–brain problems, 18, 37
[138x528]mind–brain problems, 16
[138x520]The Problem of Consciousness (McGinn), 16
procedural (acting) knowledge, 59, 60–1, 64–9, 119–20
procedural (implicit) memory, 49–51, 55, 59, 60–1
progressive learning, mindfulness, 176–9
progressive relaxation, 88, 100–1, 158, 164, 165–70
proto-self, 65–6
psychiatric disorders, see also schizophrenia
brain imaging, 7–8
psychiatry, 9–10, 15, 19, 25–6, 40–1, 43–4, 48, 89, 129–32, 190, 191, 194–6, see also
schizophrenia
psychosomatic disorders, 46–7, 83–5, 192, see also
hypertension; irritable bowel syndrome;
prenational syndrome
Psychotech, 104, 120, 127–9, see also MindLAB SET
system; NeuroLAB QEEG device
psychotherapy, 5–6, 9–10, 15, 19, 25–6, 30–4, 41–4,
52–4, 85, 103, 118–19, 137–44, 145–51, 189–93, 197–8
complex systems theory, 30–4, 35–7, 43–4, 53–4, 156–70, 189–90
complexity, chaos, and dynamical systems,
30–4, 35–8, 43–4, 53–4, 156–70
deterministic/stochastic aspects, 29, 33, 34, 38, 146
EDA early uses, 103
Entropy of Mind model, 25–6, 32–4, 39–40, 43–4, 48, 54, 58–9, 62, 119–20, 190, 191
imagery, 32–4
neuroscience uses, 9–10, 19, 25–6, 85, 120–1, 125–34, 137–44
objectives, 118–19
perceptions about neuroscience, 5–6
reprogramming metaphor, 19, 25–6
restructured belief systems, 25–6, 166–8
sets and settings, 145–51
viruses/worms/Trojans metaphor, 19
Psychotrainer, 103
pulsatile blood vessels, artifacts EEG variables, 90–1
pure awareness, transcendental meditation, 173
QEDA (quantitative electrodermal activity), 103–7, 135–44, 149–51, 168–70, 195–6, 197–8, see also EDA . . . MindLAB SET system;
MindSCAN QEDA software
ADHD, 138, 141–2, 190, 192
advising the patient, 136, 137–8, 167, 169–70
complex psychological diagnosis, 135–44
concepts, 104–7, 135–44, 168–70, 195–6, 197–8
data regarding specific clinical disorders, 139–44
depression, 138, 140, 190, 191
Index

QEDA (quantitative electrodermal activity) (Continued)
- hypertension, 138, 142–3
- mania, 138, 141
- narrative construction, 139
- OCD, 138, 140
- recorded data uses, 139
- reference database, 92–3, 107–11
- schizophrenia, 138, 141, 152–3, 190, 191, 195–6
- self-regulation techniques, 137–44, 168
- sets and settings, 149–51
- training resources, 197–8
- treatments, 137–44, 168–70, 178

QEEG (quantitative electroencephalography), 85, 91–5, 94, 107, 116, 120, 125–34, 141, 142, 149–51, 172–3, 181–8, 197–8, see also
- Atlantis II QEEG hardware from BrainMaster; NeuroLAB QEEG device
- ADHD, 133
- complex psychological diagnosis, 116, 120, 125–34, 141, 142
- costs, 93–4
- critique, 93–5
- database reference criteria, 92–3
- dementias, 126–9
- depression, 132–4
- mania, 133–4
- OCD, 133–4, 183–6
- when QEEG is, 85
- schizophrenia, 129–32
- technical and methodological aspects, 92–5
- training resources, 197–8
- uses, 95, 116, 120, 125–34, 149–51, 181–8
- quantitative (parametric) analyses, meditation, 174–5
- quantum physics, mind–brain problems, 15–16

Rapaport, D., 36
- rational paradigm, 69, 78, see also language ...
- rationalistic approaches, 27
- readiness to act, 99–100
- reciprocity, 10, 165–6
- reductionist tradition, 12, 13–15, 19, 43–4, 84, 158–62
- reflex arc concepts, 21–2
- regulators, EDA, 101–2
- regulatory systems, social brain, 42, 43–4
- relapses
- bipolar disorder, 194, 196
- depression, 177
- schizophrenia, 194–6
- relational patterns and social cooperation, functional diagnosis processes, 119–20
- relational processes, 10, 20–6, 37, 41–4, 61–2, 64–9, 97–8, 119–20, 142, 145–51, 152–5, see also
- attachment, ... Machiavellian (relating) intelligence; reciprocity; social brain
- self concepts, 64–9
- sets and settings, 145–51
- relaxation, 88, 100–1, 158, 164, 165–70

relaxation, 12–14, 17–18, 39
- REM (rapid eye movement), beta waves, 88
- reprogramming metaphor, psychotherapy, 19, 25–6
- reptilian brains, 38–9, 57, 71, 75–6
- resilience training, 167–8
- structured belief systems, 25–6, 166–8
- Rey Auditory Verbal Learning Test (RAVL), 126–7
- rhinencephalon, 59
- right prefrontal cortex, mindfulness, 176–7
- rituals, OCD, 183–6, 190–1
- river analogy, complexity theories, 28
- Roman Empire, 39
- rumination dangers, 88, 140, 176, 177–8, 183–6, 191

sāmādhī, 172
- satori, 172–3
- Savage-Rumbaugh self concepts, 73
- Schacter’s memory concepts, 50
- schmera therapy, 44
- schemas, see also knowledge
- definition, 62, 66
- schizophrenia, 7–9, 25–6, 32–4, 39–41, 43–4, 48, 62, 66–8, 89, 101, 111, 114, 129–32, 138, 141, 152–3, 190, 191, 194–6, see also
- delusional hallucinations
- brain imaging, 7–9, 25–6, 129–32
- chaos theory, 33–4
- definition, 194–5
- Entropy of Mind model, 25–6, 32–4, 39–40, 43–4, 48, 54, 58–9, 62, 119–20, 190, 191
- internal dialogs, 54
- narrative, 68
- onset, 130–1
- psychofeedback, 190, 191, 195–6
- QEDA, 138, 141, 152–3, 190, 191, 194–6
- QEEG, 129–32
- relapses, 194–6
- synaptic pruning, 130–2
- warning signs of relapse, 194–6
- Schultz’s autogenic training, 165, 169
- SCRs see skin conductance levels
- SCRs see skin conductance responses
- Searle, John, 15–16
- second psychodynamic model, 37–8
- Seleucus, King, 83–4
- self concepts, 16, 17–18, 20–6, 31–4, 40–1, 62–9, 71–2, 74–6, 119–20, see also knowledge ...
- memory ...
- definitions, 16–17, 62–7
- evolutionism, 71–2, 74–6
- fundamental defining statements, 63–4
- narrative, 67–9
- personal identity, 66–7, 168–70
- self-agency, 64–5
- self-awareness, 64–5, 72–9
- self-coherence, 64–5

religions, 12–14, 17–18, 39
self-consciousness characteristic of the human species, 72–9
self-continuity, 64–5
self-control see biofeedback; self-regulation...
self-efficacy (self-confidence), 167–8, 184–6, 190–3, 196
self-esteem, 196
self-image improvements, 167–8
self-organizational aspects of the brain, 17–18, 20–6, 31–4, 38–41, 65–9, 78–9
self-recognition, 72–3
self-reflection, evolutionism, 71–2
self-reflection, evolutionism, 71–2
self-recognition, 72–3
self-referencing, 64–5, 72–9
self-reflection, evolutionism, 71–2
self-regulation techniques, 19, 137–44, 156–70, 174–9, 183–6, 189–93, 195–7, 197–8, see also meditation; mindfulness
self-regulation techniques, 19, 137–44, 156–70, 174–9, 183–6, 189–93, 195–7, 197–8, see also meditation; mindfulness
QEDA, 137–44, 168
relaxation contrasts, 169–70
semantic memory, 51, 60
sensors, electrodes, 148–9
sensory cortex, 40–4, 47–9
sensory memory, concepts, 49–51
sensory receptors, 21–6, 47–9, 88
serotonin, monoamines, 77–8
sets and settings
concepts, 145–51
definitions, 145
Freud’s offices, 146
sexual attraction, 84
sexual repression, 35–6
Shachter and Singer’s theory, 22
Shaver, Phillip, 42
Shevlin and Dickman’s knowledge concepts, 55
shock treatments, 145–6, 149, 159
Sicily, 148, 197
side-by-side settings, 150–1
Siegel, Daniel, 68–9, 176–7
Sisifo protocol, 183–6, 190–1
Skarda and Freeman’s concept, 32–3
skin conductance levels (SCLs), 99–100, 109–11, 113–15, 139–44, 152–5, 179
skin conductance responses (SCRs), definition, 99–100
sleep state, 87–9, see also delta waves; theta waves
slow waves, see also delta...; theta... concepts, 87–8, 128–9
smell, 47–9, 50–1, 76
Snyder and Hall’s findings, 133
social brain, see also relational processes
concepts, 41–5, 61–2, 138–44
social knowledge see Machiavellian (relating) intelligence
social neuroscience, 9
social organization, evolutionism, 73–6
social psychology, 85
social psychophysiology, 152–5
Society of Neuroscience, 6–7
sociology, 37–8
Socratic questioning, 51
sodium valproate anti-epileptic, 115
somatic data, 22–6, 46–7, 51, 84, 109–11
somatosensory cortex, 42–3
the soul, mind–brain problems, 12–13
SPECT (single photon emission computed tomography), 8
spikes, morphology EEG variables, 89
spiritual aspects of the mind, 11–14, 17–18, 57
spontaneous phasic responses, 100–1, 111
Squire and Paller’s memory concepts, 50
SSRIs (selective serotonin re-uptake inhibitors), see also escitalopram; fluoxetine
EDA effects, 115
QEEG effects, 133
suicide risks, 115, 192
State–Trait Anxiety Inventory, 25
stochastic aspects of psychotherapy, 34, 38
strategies, 40–1
structural approaches to diagnoses, critique, 118
structural imaging, see also CT...; MRI...
historical background, 7–9
Student’s t-tests, 109–11, 131–2, 174–5, 185–6, see also p-values
meditation, 174–5
stuttering, 142, 192
substance P, neuropeptides, 77–8
substantialist theories of the mind, 12, 14
suicide risks
pharmacological treatments, 115, 192
SSRIs, 115, 192
Sulle Tracce della Mente (“On the Trail of the Mind”, author), 17–18
super ego, 35–6, 37
survival, 47–9, 50–1, 57, 59–60
sweat glands, EDA, 96–115, 136–44
symmetry EEG variables, 89, 127–34
sympathetic vegetative nervous system, 44–5
symptoms, 116–21, see also diagnoses
synapses, childhood, 130–1
synaptic pruning, schizophrenia, 130–1
synchronic analog (LED bar) visual displays, biofeedback techniques, 161, 196
synchronic digital (numeric) visual displays, biofeedback techniques, 161
synchronic mind training, see also mindfulness concepts, 177–9, 191
Syracuse, 197
Systems Neuroscience, 9
systemic focus, 20–6
systems theory, psychotherapy, 30–4
sychardacia, 84
tacit knowledge, 55–62, 64–9, 119–20, 163–4, 178, see also experiences
concepts, 55–62, 64–9, 119, 163–4
definition, 59
the unconscious, 55–7
tact mind, 24–5, 50–1, 119–20, 163–4, 178–9
concepts, 50–1
Tacita... Mente laboratory, 51

Index
Tantalos protocol, 47, 190, 191
Taoist, 197
Tarchanoff's EDA observations, 102–3
Taucher et al. study, 130
Taylor, John G., 16
tea, 112
temporal cortex, 62
temporal lobe, 40, 59, 87–8, 128–32
thalamus, 38, 41, 50–1, 59, 62, 101–2
Thanatos (death wish), 55–6
Thatcher's database QEEG reference criteria, 92–3
Therapists advising the patient about QEDA, 136, 137–8, 167, 169–70
clothes, 145–6
going to neuroscience-based cognitive therapy, 197–8
sets and settings, 145–51
Theravada Buddhism vipassana meditation techniques, 172, 174–5, 176–7
theta waves, 87–95, 128–9, 133–4, 172–3, 180–8, see also neurofeedback
benefits, 87–8
courses, 87–8, 95, 172–3, 180–8
definition, 87–8
meditation, 172–3
training efforts, 180–8
vagabond, 112
tonic EDA, concepts, 100–4, 112–13, 135
top-down control mechanisms, 169–70
TOTE (“test, operate, test, and exit”) unit, 21–2
"track of the mind", fingertip perspiration, 98
training resources, getting to neuroscience-based cognitive therapy, 197–8
transcendental meditation, 171–2, 173
transducers, 160–1
transfer, 37
treatments
addictions, 187–8, 190, 191
ADHD, 133, 186–7, 190, 192
alcoholics, 187–8
biofeedback, 19, 103, 156–70, 177–9, 183–6
depression, 115, 132–3, 187, 190, 191
eating disorders, 190, 191
hypertension, 143, 192
insomnia, 180–3
mania, 187
MindLab Set system, 137–44, 168–70, 178, 190–3
neurofeedback, 95, 125, 133, 156–70, 180–8
OCD, 134, 178–9, 183–6, 190–1
pharmacological treatments, 111–17, 132–3, 140, 162–3, 191
psychofeedback, 95, 104, 133, 151, 154–5, 156–70, 173–4, 177–9, 189–93
psychogenic impotence, 144
QEEG, 137–44, 168–70, 178
tricyclic antidepressants, 112, 115
tripartite brain, 75–6
triphosphites, 169
Tischacher and Scheier concepts, 34
Tulving's memory concepts, 51
Tutankhamen, 65–6
type A characteristics, 45
the unconscious, 14, 37, 53, 55–7
United States, 43–4, 93–5, 117, 146, 158–9
University of Catania, 28–9, 36, 103, 108, 130–1, 145–51, 152–5, 177–8, 197
Clinical and Experimental Psychophysiology Laboratory at the Department of Psychiatry, 154, 177–8, 184
Department of Anatomy, 28–9
Department of Psychiatry, 103, 130–1, 145–51, 152–5, 184
Institute for Cognitive Sciences, 192
Institute of Physiology, 36
University of Rome, 55, 158–9
unpleasant acoustic stimuli experiments, 23–5, 99–100, 154–5, 166–7, 168
 unus ex pluribus, 39
vagal parasympathetic vegetative nervous system, concepts, 45
tobacco, 112
vagus nerve, 46–7
valproic acid anti-epileptic, 115
variability concepts of evolutionism, 70–9
Vaughn and Leff's findings, 152–3
"vegetative mind", 13
vipassana meditation techniques, 172, 174–5, 176–7
viruses/worms/Trojans metaphor, psychotherapy, 19
visceral brain, 44, 46–7, see also ANS (autonomic nervous system)
vision, 47–9, 76–7, 160–1, 196
visual displays, biofeedback techniques, 160–1, 196
vital nervous system, 39–40
Walsh, R., 171
waves, see also electrical... morphology EEG variables, 89
worry, 88, 99–100, 137, 140, 177–9, see also anxiety...
Yale Brown Obsessive-Compulsive Scale, 184–5
Young, Jeffrey, 43–4
zazen shikantaza meditation techniques, 172
Zen Buddhism, 172–3