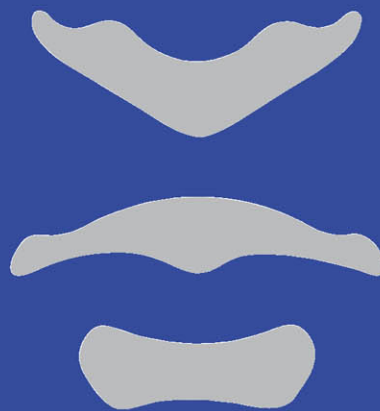
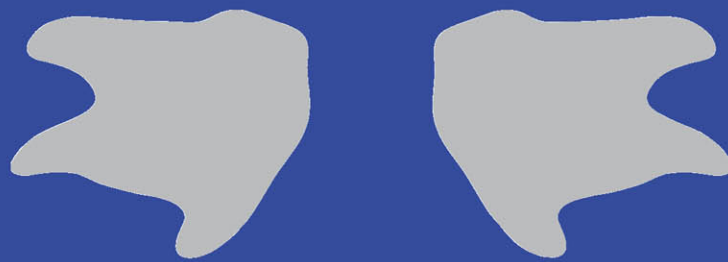


RICHARD
GROSS

PSYCHOLOGY

THE SCIENCE OF MIND AND BEHAVIOUR

SEVENTH EDITION



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HODDER
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Dedication

To my beautiful daughters, T.N. and J.G., in the hope that, given time, love will prevail.

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CONTENTS

Guided tour	vi
Preface	viii

PART 1: THE NATURE AND SCOPE OF PSYCHOLOGY

1 What is this thing called Psychology?	1
2 Theoretical approaches to Psychology	13
3 Psychology as a science	37

PART 2: THE BIOLOGICAL BASIS OF BEHAVIOUR AND EXPERIENCE

4 The nervous system	51
5 Sensory processes	74
6 Parapsychology	89
7 States of consciousness and bodily rhythms	105
8 Addictive behaviour	125
9 Motivation	143
10 Emotion	159
11 Learning and conditioning	175
12 Application: Health Psychology	190

PART 3: COGNITIVE PSYCHOLOGY

13 Attention	217
14 Pattern recognition	234
15 Perception: Processes and theories	246
16 The development of perceptual abilities	264
17 Memory and forgetting	281
18 Language and thought	302

19 Language acquisition	314
20 Problem-solving, decision-making and artificial intelligence	329
21 Application: Cognition and the law	345

PART 4: SOCIAL PSYCHOLOGY

22 Social perception	363
23 Attribution	383
24 Attitudes and attitude change	394
25 Prejudice and discrimination	411
26 Conformity and group influence	431
27 Obedience	446
28 Interpersonal relationships	461
29 Aggression and antisocial behaviour	485
30 Altruism and prosocial behaviour	503
31 Application: The Social Psychology of sport	519

PART 5: DEVELOPMENTAL PSYCHOLOGY

32 Early experience and social development	531
33 Development of the self-concept	554
34 Cognitive development	569
35 Moral development	589
36 Gender development	606
37 Adolescence	622
38 Adulthood	637
39 Old age	656
40 Application: Exceptional development	672

PART 6: INDIVIDUAL DIFFERENCES

41 Intelligence	689
42 Personality	713
43 Psychological abnormality: definitions and classification	736
44 Psychopathology	755
45 Treatments and therapies	779
46 Application: Criminological psychology	804

PART 7: ISSUES AND DEBATES

47 Bias in psychological theory and research	824
48 Ethical issues in psychology	837
49 Free will and determinism, and reductionism	855
50 Nature and nurture	870
Acknowledgements	884
References	887
Index	961

GUIDED TOUR

Helps you to analyse, evaluate and assess the validity of this scientific information — a crucial component of A level and undergraduate study.

Critical Discussion 50.2

Are shared environments really that unimportant?

Scarr (1992) acknowledges the influence of the environment on behaviour but claims that, in reality, the environment is very similar for many individuals. According to the 'average [...]

Psychology is a research-driven field. These updates let you see how scientific explanations change in light of new information, showing you 'how science works'.

Research Update 42.1

Freud and neuroscience

As we noted in Chapter 2, support for certain aspects of Freud's theories has been provided by the relatively new sub-discipline of *neuropsychanalysis* (NP), one of the many spin-offs [...]

Understanding the cultural context of scientific findings helps you to explain and evaluate a variety of methods and results from different psychological studies.

Cross-Cultural Study 35.1

Trobriand Island boys and their fathers (Malinowski, 1929)

- Among the Trobriand Islanders of Papua New Guinea, boys were traditionally disciplined by their maternal uncle (their mother's brother), rather than by their own [...]

With some key questions in mind (if not always answers!) you will more easily understand the major studies and theories.

Ask Yourself

- Do you agree with Skinner's claim that thoughts and other 'covert behaviours' don't explain our behaviour (because they cannot determine what we do)?

It can be hard to link theories to real life. Case studies give you concrete examples of people's stories, and how they confirm or challenge psychological research.

Case Study 4.1

The case of the phantom hand

Tom Sorenson lost a hand in a car accident, after which his arm was amputated just above the elbow. When his face was touched in various places, he experienced [...]

This feature explains the methods, results and implications of some of the more iconic or innovative work in Psychology.

Key Study 4.1

When the left brain literally doesn't know what the left hand is doing (Sperry, 1968)

- Participants sit in front of a screen, their hands free to handle objects that are behind the screen but which are obscured from sight.

There is a lot to take in for your exams and essays. This feature will help you revise, build up your knowledge of the key points and how they fit together.

Chapter Summary

- **Biopsychology** is the branch of neuroscience that studies the biological bases of behaviour. Biopsychologists are only interested in biology for what it can tell them about behaviour and mental processes.

Helps you evaluate a particular theory or piece of research by understanding its connections with others.

Links with Other Topics/Chapters

Chapter 28 → Babies' sociability has its adult counterpart in the *need for affiliation*, the basis of *interpersonal attraction*

Some of the top psychology researchers in the world talk in a more personal way about why they asked the questions they did. The methods they used, and the stories behind their research, will help you explain and evaluate the impact of their own and others' work in this continually developing science.



Dr Kay

MEET THE RESEARCHER

Constructions of the family in popular culture: the case of *Buffy the Vampire Slayer*

When we think about the psychological and sociological implications of the television series *Buffy the Vampire Slayer*, we often think about the character of Buffy Summers, the teenage girl who saves the world from evil forces. But the series also explores the complexities of family life, particularly the relationship between Buffy and her mother, Joyce. This feature discusses the ways in which the series constructs the family and the implications of these constructions for our understanding of family life in popular culture.




Questioning 'Common Sense' discourses

The series *Buffy the Vampire Slayer* has been widely discussed in terms of its representation of the family. This feature explores the ways in which the series constructs the family and the implications of these constructions for our understanding of family life in popular culture. It discusses the ways in which the series challenges 'common sense' discourses about the family and the implications of these challenges for our understanding of family life in popular culture.

Conclusion

This feature has explored the ways in which the television series *Buffy the Vampire Slayer* constructs the family. It has discussed the ways in which the series challenges 'common sense' discourses about the family and the implications of these challenges for our understanding of family life in popular culture. It has also discussed the ways in which the series explores the complexities of family life, particularly the relationship between Buffy and her mother, Joyce.

PREFACE

By the time this 7th edition of *Psychology: The Science of Mind and Behaviour* is published, it will be 28 years since the first edition appeared (and 30 years since the contract for that first edition was signed!). Needless to say, much has changed within Psychology in that time, and yet some of the basic questions that researchers have been exploring – and philosophers before them – are still being asked.

Despite the advent of e-books and the evolution of electronic media in general, the task of the textbook author has remained essentially the same. Something that you, as a student having to write essays, seminar papers, and dissertations, and I, as a textbook author, have in common, is the challenge of deciding what is best to include and exclude within what are always finite resources – time, money, words, and so on. Users of this book are (mainly) students new to Psychology, who need to know something of its past in order to appreciate where it is now – and where it might be going in the future. In order to make room for discussion of recent developments, I have continued what was started in the 6th edition, namely, to reduce the amount of detail when describing the older (but never redundant) material. Also, I've sometimes sign-posted the reader to alternative sources of material, rather than providing a cursory summary of a particular study or theory.

One of the features new to the 6th edition, and which has been retained in the 7th, is the 'Meet the Researcher' feature. While these haven't been updated, in all cases their original contributions remain as relevant and informative as they were when they first appeared. As well as providing additional material to what's covered in the main body of the textbook, what their contributions

show is that there's always a 'story' behind a theory or chosen research project. Research doesn't appear out of nowhere and what particular Psychologists investigate isn't a random event. So, every time you read about a particular study, psychological concept or construct, or full-blown theory, remember that behind it are one or more human beings, each with their 'story' of how they came to be researching that topic rather than some other area of Psychology.

For the first time in this book, I've chosen to refer to the discipline of Psychology (and sub-disciplines) with an upper case 'P'. This applies also 'Psychologists'. When used as an adjective ('psychological'), or when referring to what Psychologists actually study (various aspects of human and non-human psychology), a lower case 'p' is used. This isn't just a matter of stylistic preference; distinguishing between 'Psychology' as a scientific discipline and 'human psychology' as what Psychologists investigate highlights the unique nature of Psychology: it's where people study themselves *as* people, using the same human abilities that they (often) are investigating. Even more importantly, what Psychologists tell us about ourselves may actually change us, i.e. our psychology.

Part of the appeal of previous editions was that they catered for the needs of students on a wide range of courses, without being written specifically or exclusively for any one group. I hope – and trust – that the same can be said of this 7th edition. As before, please let me know what you think of my efforts (via the publisher) – it's not just students who need feedback!

Richard Gross

CHAPTER 1

WHAT IS THIS THING CALLED PSYCHOLOGY?

A brief history

Classifying the work of Psychologists



INTRODUCTION and OVERVIEW

Ask Yourself

- If you're completely new to Psychology, what do you expect it to consist of?
- If you've studied it before, how would you define it and what's the range of topics/subjects it covers?
- How does it differ from other disciplines, such as physiology, sociology and anthropology?

The opening chapter in any textbook is intended to 'set the scene' for what follows, and this normally involves defining the subject or discipline. In the case of Psychology, this isn't as straightforward as you might expect. Definitions of Psychology have changed frequently during its relatively short history as a separate field of study; this reflects different, and sometimes conflicting, theoretical views regarding the nature of human beings and the most appropriate methods for investigating them (see Chapter 2).

These theoretical differences partly reflect the complexity of the subject-matter. Perhaps more importantly, there's a very real sense in which we are all 'Psychologists' in our everyday lives: Psychologists as scientists/researchers use fundamental cognitive processes in order to investigate those same processes (such as perception and memory); hence, **Psychologists** (with an upper-case 'P') study human **psychology** (with a lower-case 'p'), making the relationship between the discipline and the subject matter unique. However, there are important differences between the Psychologist-as-investigator and the person-as-'Psychologist'.

Also, the boundaries between Psychology and other subject disciplines aren't clearly drawn, and what this chapter aims to do is make them sufficiently clear to enable you, the reader, who may be 'visiting' Psychology for the first time, to find your way around this book – and the subject – relatively easily.

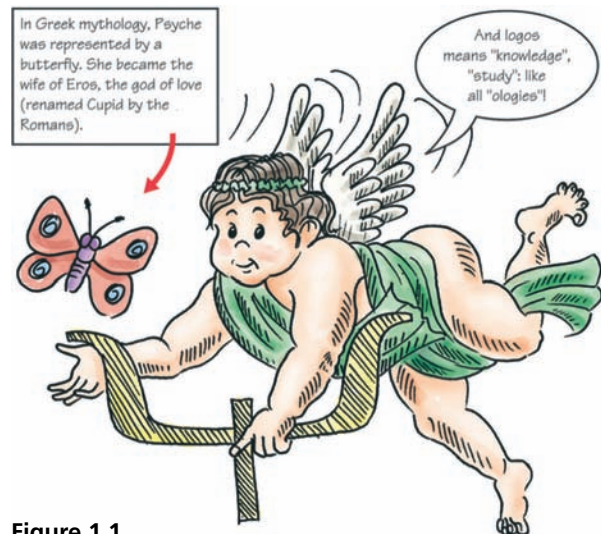


Figure 1.1

A BRIEF HISTORY

The word 'psychology' is derived from the Greek *psyche* (mind, soul or spirit) and *logos* (knowledge, discourse or study). Literally, then, Psychology is the 'study of the mind'. The emergence of Psychology as a separate discipline is generally dated from 1879, when Wilhelm Wundt opened the first psychological laboratory at the University of Leipzig in Germany. Wundt and his co-workers were attempting to investigate 'the mind' through *introspection* (observing and analysing the structure of their own conscious mental processes). Introspection's aim was to analyse conscious thought into its basic elements and perception into its constituent sensations, much as chemists analyse compounds into elements. This attempt to identify the structure of conscious thought is called *structuralism*.

Wundt and his co-workers measured and recorded the results of their introspections under controlled conditions, using the same physical surroundings, the same 'stimulus' (such as a clicking metronome), the same verbal instructions to each participant, and so on. This emphasis on measurement and control marked the separation of the 'new Psychology' from its parent discipline of philosophy.

Philosophers had discussed ‘the mind’ for thousands of years. For the first time, scientists (Wundt was a physiologist) applied some of scientific investigation’s basic methods to the study of mental processes. This was reflected in James’s (1890) definition of Psychology as:

the Science of Mental Life, both of its phenomena and of their conditions ... The Phenomena are such things as we call feelings, desires, cognition, reasoning, decisions and the like.

However, by the early twentieth century, the validity and usefulness of introspection were being seriously questioned, particularly by John B. Watson, an American Psychologist. Watson believed that the results of introspection could never be proved or disproved: if two people produce different introspective accounts, how can we ever decide whose is correct? Objectively, of course, we cannot: introspection is subjective, and only the individual can observe his/her own mental processes.

Consequently, Watson (1913) proposed that Psychologists should confine themselves to studying *behaviour*, since only this is measurable and observable by more than one person. Watson’s *behaviourism* largely replaced introspectionism, advocating that people should be regarded as complex animals and studied using the same scientific methods as those used in chemistry and physics. For Watson, the only way Psychology could make any claim to being scientific was to emulate the natural sciences and adopt its own objective methods. Watson (1919) defined Psychology as:

that division of Natural Science which takes human behaviour – the doings and sayings, both learned and unlearned – as its subject matter.

The study of inaccessible, private, mental processes was to have no place in a truly scientific Psychology.

Especially in the USA, behaviourism (in one form or another) remained the dominant force for the next 40 years or so. The emphasis on the role of learning (in the form of conditioning) was to make that topic one of the central areas of psychological research as a whole (see Chapters 2 and 11).

In the late 1950s, many British and American Psychologists began looking to the work of computer scientists to try to understand more complex behaviours which, they felt, had been either neglected altogether or greatly oversimplified by learning theory (conditioning). These complex behaviours were what Wundt, James and other early scientific Psychologists had called ‘mind’ or *mental processes*. They were now

Box 1.1 Psychoanalytic Theory and Gestalt Psychology

- In 1900, Sigmund Freud, a neurologist living in Vienna, first published his *psychoanalytic* theory of personality in which the unconscious mind played a crucial role. In parallel with this theory, he developed a form of psychotherapy called *psychoanalysis*. Freud’s theory (which forms the basis of the *psychodynamic* approach) represented a challenge and a major alternative to behaviourism (see Chapter 2, pages 18–21).
- A reaction against both structuralism and behaviourism came from the Gestalt school, which emerged in the 1920s in Austria and Germany. Gestalt Psychologists were mainly interested in perception, and believed that perceptions couldn’t be broken down in the way that Wundt proposed (see Chapter 3) and behaviourists advocated for behaviour (see Chapters 3 and 11). They identified several ‘laws’ or *principles of perceptual organisation* (such as ‘the whole is greater than the sum of its parts’), which have made a lasting contribution to our understanding of the perceptual process (see Chapter 15 for a detailed discussion).

called *cognition* or *cognitive processes*, and refer to all the ways in which we come to know the world around us, how we attain, retain and regain information, through the processes of perception, attention, memory, problem-solving, decision-making, language and thinking in general.

Cognitive Psychologists see people as *information-processors*, and Cognitive Psychology has been heavily influenced by computer science, with human cognitive processes being compared to the operation of computer programs (the *computer analogy*). Cognitive Psychology now forms part of cognitive science, which emerged in the late 1970s (see Figure 1.2). The events which together constitute the ‘cognitive revolution’ are described in Box 3.3 (page 40).

Although cognitive processes can only be *inferred* from what a person does (they cannot be observed literally or directly), they’re now accepted as being valid subject matter for Psychology, provided they can be made ‘public’ (as in memory tests or problem-solving tasks). Consequently, what people say and do are perfectly acceptable sources of information *about* their cognitive processes; however, the processes themselves remain inaccessible to the observer, who can study them only indirectly.

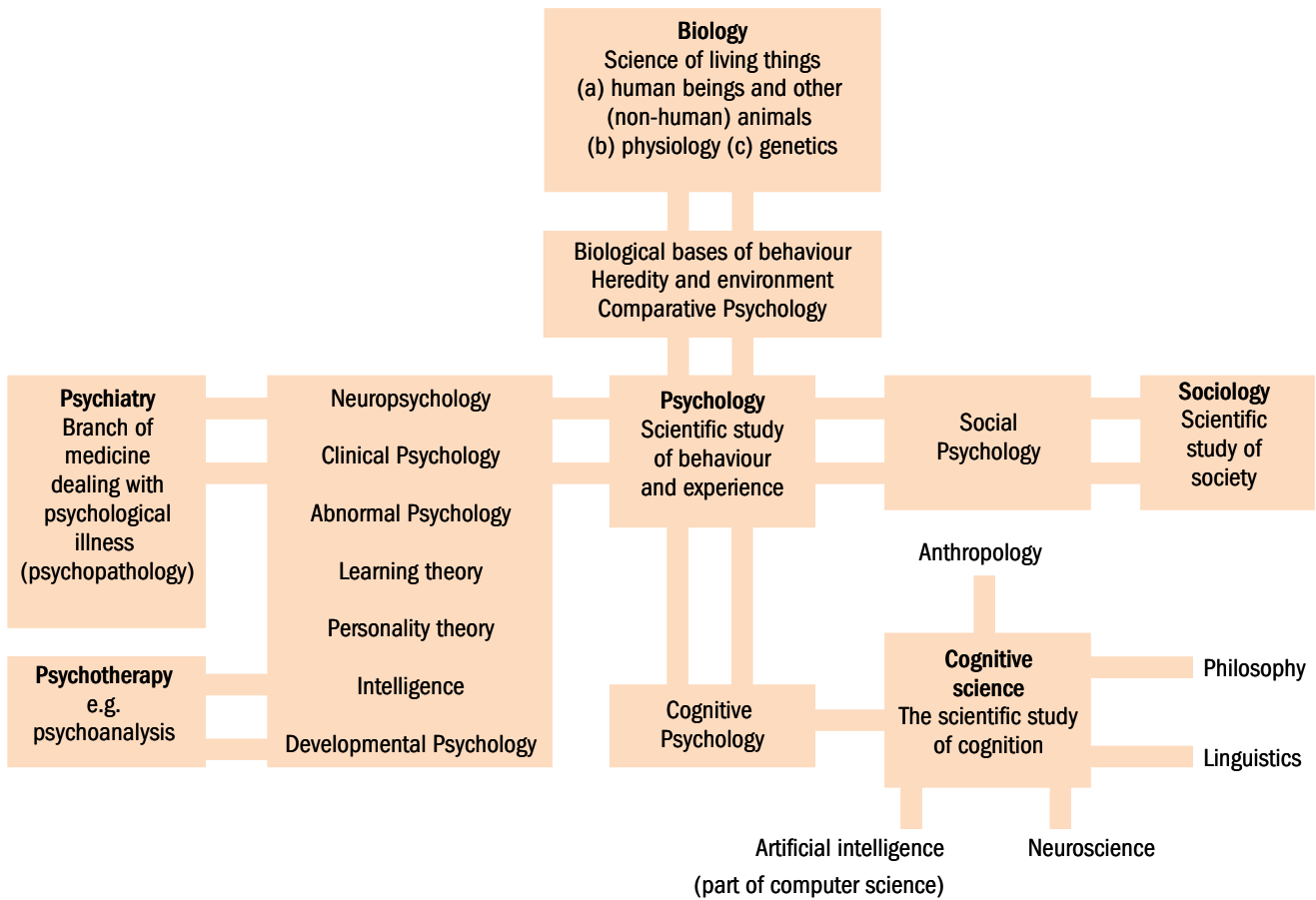


Figure 1.2 The relationship between Psychology and other scientific disciplines

The influence of both behaviourism and Cognitive Psychology is reflected in Clark and Miller's (1970) definition of Psychology as:

the scientific study of behaviour. Its subject matter includes behavioural processes that are observable, such as gestures, speech and physiological changes, and processes that can only be inferred, such as thoughts and dreams.

According to the British Psychological Society (BPS; www.bps.org.uk), Psychology is:

the scientific study of people, the mind and behaviour. It is both a thriving academic discipline and a vital professional practice.

CLASSIFYING THE WORK OF PSYCHOLOGISTS

Despite Behaviourist and Cognitive Psychology's influence during the last 90 years or so, much more goes on within Psychology than has been outlined so far. There are other theoretical approaches or

orientations, other aspects of human (and non-human) activity that constitute the special focus of study, and different kinds of work that different Psychologists do.

The BPS's distinction between the academic and professional (i.e. applied) branches of Psychology is reflected in Figure 1.4. *Academic Psychologists* carry out research and are attached to a university or research establishment, where they also teach undergraduates and supervise postgraduate research. Research is both *pure* (done for its own sake and intended, primarily, to increase our knowledge and understanding) and *applied* (aimed at solving a particular problem). Applied research is usually funded by a government institution such as the Home Office, National Health Service (NHS) or the Department for Education and Employment (DfEE), or by some commercial or industrial institution. The range of topics that may be investigated is as wide as Psychology itself, but they can be classified as focusing either on the processes or mechanisms underlying various aspects of behaviour, or more directly on people (Legge, 1975).

The process approach

This is divided into three main areas: Physiological, Cognitive and Comparative Psychology.

Physiological (or Bio-)Psychology (Chapters 4–12)

Physiological (or Bio-)Psychologists are interested in the physical basis of behaviour, how the functions of the nervous system (in particular the brain) and the endocrine (hormonal) system are related to and influence behaviour and mental processes. For example, are there parts of the brain specifically concerned with particular behaviours and abilities (localisation of brain function)? What role do hormones play in the experience of emotion and how are these linked to brain processes? What is the relationship between brain activity and different states of consciousness (including sleep)?

A fundamentally important biological process with important implications for Psychology is *genetic transmission*. The *heredity and environment* (or *nature–nurture*) issue draws on what geneticists have discovered about the characteristics that can be passed from parents to offspring, how this takes place, and how genetic factors interact with environmental ones (see Chapters 41, 44 and 50). Other research areas include motivation and stress (an important topic within *Health Psychology*: see Chapter 12), and sensory processes, which are closely connected with perception (see Chapter 15).



Figure 1.3 A brain-scan image of the underside of the human brain

Cognitive Psychology (Chapters 13–21)

As we saw earlier, cognitive processes include *attention, memory, perception, language, thinking, problem-solving, decision-making, reasoning* and *concept-formation* ('higher-order' mental activities). Although these

are often studied for their own sake, they may also have important practical implications, such as understanding the memory processes involved in *eyewitness testimony* (see Chapter 21). Social Psychology (classified here as belonging to the person approach) is heavily cognitive in flavour: many Social Psychologists study the mental processes we use when trying to explain people's behaviour, for example (social cognition). Also, Piaget's theory (again, belonging to the person approach) is concerned with cognitive development.

Comparative Psychology

Comparative Psychology is the study of the behaviour of non-human animals, aimed at identifying similarities and differences between species. It also involves studying non-human animal behaviour to gain a better understanding of human behaviour. The basis of Comparative Psychology is evolutionary theory. Research areas include classical and operant conditioning (see Chapter 11), animal communication, language and memory (see Gross, 2012a), and evolutionary explanations of human behaviour (see, for example, Chapter 2, pages 30–34). Teaching language to non-humans is discussed in relation to language development (Chapter 19).

The person approach

Social Psychology (Chapters 22–31)

Some Psychologists would claim that 'all Psychology is Social Psychology', because all behaviour takes place within a social context and, even when we're alone, our behaviour continues to be influenced by others. However, other people usually have a more immediate and direct influence upon us when we're actually in their presence (as in *conformity* and *obedience*: see Chapters 26 and 27).

Social Psychology is also concerned with *social* (or *interpersonal*) *perception* (forming impressions of others), *interpersonal relationships, prejudice* and *discrimination*, and *pro- and antisocial behaviour* (especially *aggression*). Chapter 31 looks at the Social Psychology of sport.

Developmental Psychology (Chapters 32–40)

Developmental Psychologists study the biological, cognitive, social and emotional changes that occur in people over time. One significant change during the past 30 years or so is the recognition that development isn't confined to childhood and adolescence, but is a lifelong process (the *lifespan approach*): development continues beyond childhood and adolescence into adulthood and old age.

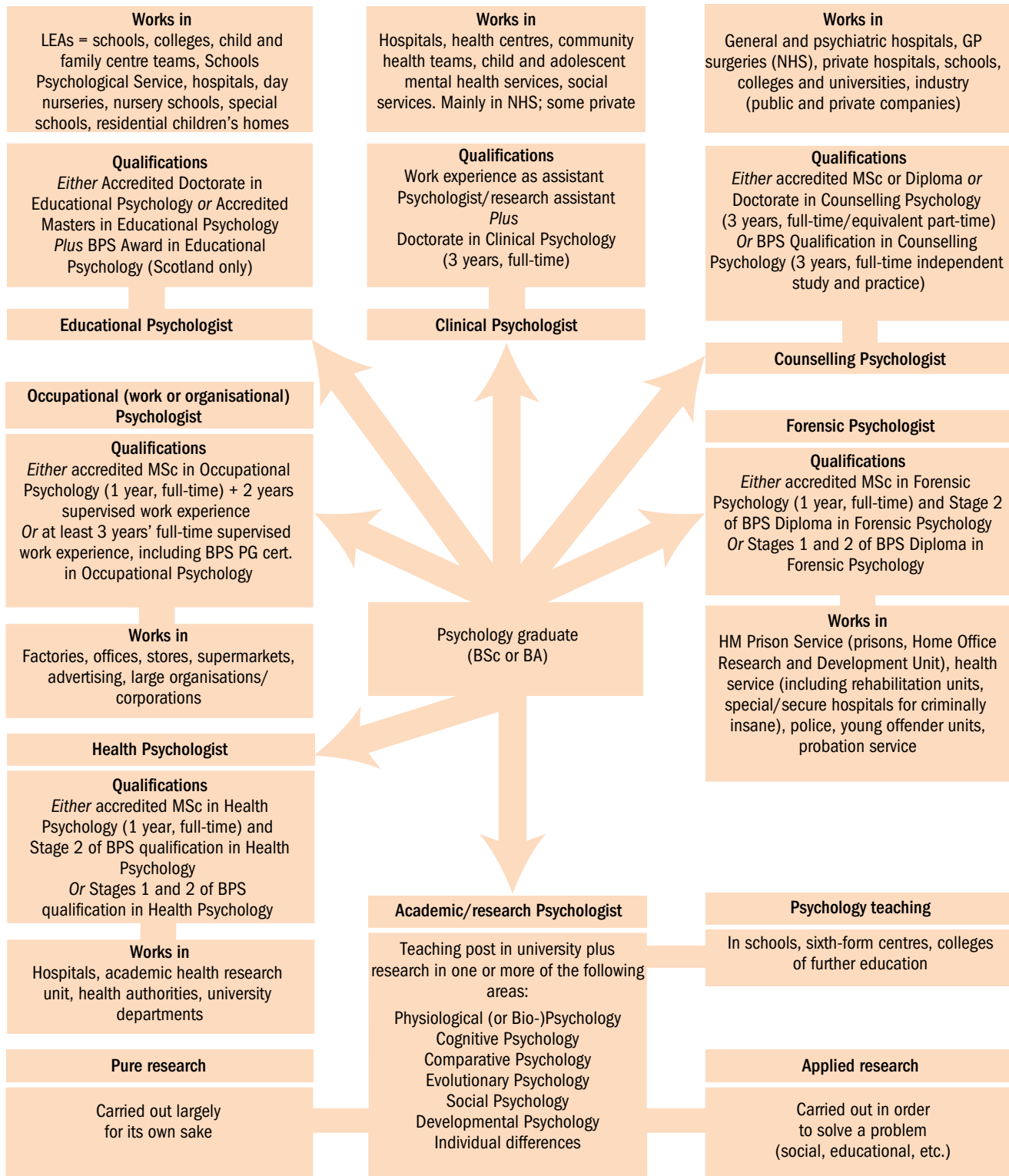


Figure 1.4 Some of the main areas of academic and applied Psychology open to Psychology graduates

Developmental Psychology isn't an isolated or independent field, and advances in it depend on progress within Psychology as a whole, such as behaviour genetics, (Neuro)Physiological Psychology, learning, perception and motivation. Equally, Piaget's

theory of cognitive development is considered to have made a major contribution to Psychology as a whole (see Chapter 34). While the focus is on normal development, Chapter 40 is concerned with exceptional/atypical development.



Figure 1.5 Three generations of the same family

Individual differences (Chapters 41–46)

This is concerned with the ways in which people can differ from one another, including personality, intelligence and psychological abnormality. Major mental disorders include schizophrenia, depression, anxiety disorders and eating disorders. Abnormal Psychology is closely linked to Clinical Psychology, one of the major applied areas of Psychology (see below). Each major theoretical approach has contributed to both the explanation and the treatment of mental disorders (see Chapters 2 and 45).



Figure 1.6 Some individual differences are very obvious

Another source of individual differences is *criminal behaviour*, which is discussed in Chapter 46.

Areas of Applied Psychology

Discussion of the person/process approaches has been largely concerned with the academic branch of Psychology. Since the various areas of Applied Psychology are all concerned with people, they can be thought of as the applied aspects of the person approach.

Box 1.2 Some important differences between the process and person approaches

- The **process approach** is typically confined to the laboratory (where experiments are the method of choice). It makes far greater experimental use of non-human animals and assumes that psychological processes (particularly learning) are essentially the same in all species, and that any differences between species are only *quantitative* (differences of degree).
- The **person approach** makes much greater use of field studies (such as observing behaviour in its natural environment) and of non-experimental methods (e.g. correlational studies). Typically, human participants are studied, and it's assumed that there are *qualitative* differences (differences in kind) between humans and non-humans.

According to Hartley and Branthwaite (1997), most applied Psychologists work in four main areas: *Clinical, Educational and Occupational Psychology*, and government service (such as *Forensic or Criminological Psychologists*). In addition, Coolican *et al.* (2007) identify *Counselling, Sport and Exercise, Health and Environmental Psychologists*.

Each of these eight areas is represented by a division within the BPS. Other divisions are (a) Teachers and Researchers; and (b) Neuropsychology. *Neuropsychologists* investigate the relationship between the brain and cognitive or physiological processes; like Clinical Psychologists, they may also help to assess and rehabilitate brain-injured people and those with neurological disorders (such as strokes, dementia, tumours and degenerative brain diseases).

Hartley and Branthwaite (1997) argue that the work Psychologists do in these different areas has much in common: it's the subject matter of their jobs that differs, rather than the skills they employ. Consequently, they consider an Applied Psychologist to be a person who can deploy specialised skills appropriately in different situations. (See Box 1.3.)

Clinical Psychology

Clinical Psychology represents the largest single division within the BPS (Coolican *et al.*, 2007) and the USA (Atkinson *et al.*, 1990). They usually work as part of a team with, for example, social workers, medical practitioners and other health professionals. In the UK, most work in the NHS, but some work in private practice. (See Box 1.4.)

Psychotherapy is usually carried out by psychiatrists (medically qualified doctors specialising

Box 1.3 Seven major skills (or roles) used by Applied Psychologists

- **Psychologist as counsellor:** helping people to talk openly, express their feelings, explore problems more deeply, and see these problems from different perspectives. Problems may include school phobia, marriage crises and traumatic experiences and the counsellor can adopt a more or less directive approach (see Chapter 2, pp. 21–23, and Chapter 45).
- **Psychologist as colleague:** working as a member of a team and bringing a particular perspective to a task, namely drawing attention to the human issues, such as the point of view of the individual end-user (be it a product or a service of some kind).
- **Psychologist as expert:** drawing upon specialised knowledge, ideas, theories and practical knowledge to advise on issues ranging from incentive schemes in industry to appearing as an ‘expert witness’ in a court case.
- **Psychologist as toolmaker:** using and developing appropriate measures and techniques to help in the analysis and assessment of problems, including questionnaire and interview schedules, computer-based ability and aptitude tests, and other psychometric tests (see Chapters 41 and 42).
- **Psychologist as detached investigator:** many Applied Psychologists carry out evaluation studies to assess the evidence for and against a particular viewpoint. This reflects the view of Psychology as an objective science, which should use controlled experimentation whenever possible. The validity of this view is a recurrent theme (see, in particular, Chapter 3).
- **Psychologist as theoretician:** theories try to explain observed phenomena, suggesting possible underlying mechanisms or processes. They can suggest where to look for causes and how to design specific studies that will produce evidence for or against a particular point of view.
- **Psychologist as agent for change:** helping people, institutions and organisations, based on the belief that their work will change people and society for the better. However, some changes are much more controversial than others, such as the use of psychometric tests to determine educational and occupational opportunities, and the use of behaviour therapy and modification techniques to change abnormal behaviour (see Chapters 41, 45, 47 and 48).

(Based on Hartley and Branthwaite, 2000)

Box 1.4 The major functions of the Clinical Psychologist

- Assessing people with learning difficulties (LDs), administering psychological tests to brain-damaged patients, devising rehabilitation programmes for long-term psychiatric patients and assessing the elderly for their fitness to live independently.
- Planning and carrying out programmes of therapy, usually behaviour therapy/modification (both derived from learning theory principles) or psychotherapy (group or individual) in preference to, or in addition to, behavioural techniques (see Chapter 45).
- Carrying out research into abnormal psychology, including the effectiveness of different treatment methods (‘outcome’ studies); patients are usually adults, many of whom will be elderly, in psychiatric hospitals, psychiatric wards in general hospitals and psychiatric clinics.
- Involvement in community care, as psychiatric care in general moves out of the large psychiatric hospitals.
- Teaching other groups of professionals, such as nurses, psychiatrists and social workers.



Figure 1.7 A Clinical Psychologist working in a day-centre for the elderly

in psychological medicine) or psychotherapists (who’ve undergone special training, including their own psychotherapy). In all its various forms, psychotherapy is derived from Freud’s psychoanalysis (see Chapters 2 and 45), and is distinguished from both behavioural treatments and physical (somatic) treatments (those based on the medical model: see Chapters 43 and 45).

Counselling Psychology

Counselling Psychologists work within the NHS (in general and psychiatric hospitals and GP surgeries), in private hospitals and in private practice, in schools,

colleges and universities, within the prison service, in industry and in public and private corporate institutions. They may work directly with individuals, couples, families and groups, or act as consultants (see Chapter 45).

Forensic Psychology

Forensic Psychology is the application of psychological principles and methods to the criminal justice system. It is rooted in empirical research and draws on Cognitive, Developmental, Social and Clinical Psychology. One main focus is the study of criminal behaviour and its management, but in recent years research interests have expanded to include other areas, most notably those with a high media profile (such as stalking; see Chapter 46). Like Clinical Psychologists, a crucial part of their work involves research and evaluation of what constitutes successful treatment.

The largest single employer of Forensic Psychologists in the UK is HM Prison Service (which includes the Home Office Research and Development Unit as well as prisons). Forensic (formerly 'Criminological') Psychologists also work in the health service (including rehabilitation units and special/secure hospitals for the criminally insane, such as Broadmoor and Rampton), the police service, young offender units and the probation service. Some work in university departments or in private consultancy.

Box 1.5 Some recent areas of research interest among Forensic Psychologists

- Jury selection
- The presentation of evidence
- Eyewitness testimony (see Chapter 21)
- Improving the recall of child witnesses
- False memory syndrome and recovered memory (see Chapter 21)
- Offender profiling (see Chapter 46)
- Crime prevention (see Chapter 46)
- Devising treatment programmes (such as anger management, see Chapter 46)
- Assessing the risk of releasing prisoners (see Chapter 46)

(From Coolican *et al.*, 1996)

Educational Psychology

Before 2006, people wanting to train as Educational Psychologists were required to have a teaching qualification and experience. Now, all that's required is a three-year postgraduate training in Educational Psychology (see Figure 1.4) (Frederickson and Miller, 2008).

Educational Psychologists' clients are mostly aged up to 18 years, but most fall into the 5–16 age group. They regularly liaise with other professionals from the

departments of education, health and social services. A growing number work as independent or private consultants (British Psychological Society, 2004).

Box 1.6 Some of the responsibilities of the Educational Psychologist

- Administering psychometric tests, particularly intelligence (or IQ) tests, as part of the assessment of LDs (see Chapters 40 and 41).
- Planning and supervising remedial teaching; research into teaching methods, the curriculum (subjects taught), interviewing and counselling methods and techniques.
- Planning educational programmes for those with mental and physical impairments (including the visually impaired and autistic), and other groups of children and adolescents who aren't attending ordinary schools (special educational needs; see Chapter 40).
- Advising parents and teachers on how to deal with children and adolescents with physical impairments, behaviour problems or LDs.
- Teacher training.

In the USA, *Educational Psychology* is concerned with theory, methodology and applications to a broad range of teaching, training and learning issues. *School Psychology* refers to the delivery of psychological services to children, adolescents and families in schools and other applied settings (Frederickson and Miller, 2008).

Occupational (Work or Organisational) Psychology

Occupational Psychologists are involved in the selection and training of individuals for jobs and vocational guidance, including administration of aptitude tests and tests of interest. (This overlaps with the work of those trained in personnel management.)



Figure 1.8 An Educational Psychologist working in a special needs school

Box 1.7 Other responsibilities of the Occupational Psychologist

- Helping people who, for reasons of illness, accident or redundancy, need to choose and retrain for a new career (*industrial rehabilitation*).
- Designing training schemes, as part of 'fitting the person to the job'; teaching machines and simulators (such as an aeroplane cockpit) often feature prominently in these schemes.
- 'Fitting the job to the person' (human engineering/ Engineering Psychology or *ergonomics*) – findings from Experimental Psychology are applied to the design of equipment and machinery in order to make the best use of human resources and to minimise accidents and fatigue; examples include telephone dialling codes (memory and attention) and the design of decimal coinage (tactile and visual discrimination).
- Advising on working conditions in order to maximise productivity (another facet of ergonomics – the study of people's efficiency in their working environments); occupational groups involved include computer/VDU operators, production-line workers and air-traffic controllers.
- Helping the flow of communication between departments in government institutions, or 'industrial relations' in commerce and industry (Organisational Psychology); the emphasis is on the *social*, rather than the physical or practical, aspects of the working environment.
- Helping to sell products and services through advertising and promotions; many Psychologists are employed in the advertising industry, where they draw on what Experimental Psychologists have discovered about human motivation, attitudes and cognition (see Chapter 24).

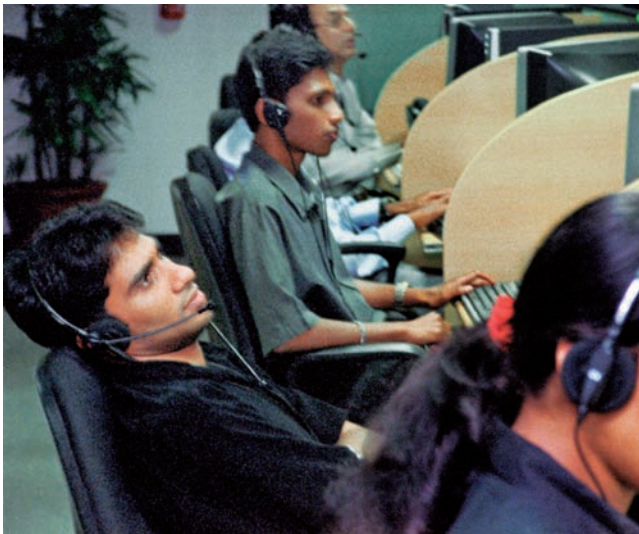


Figure 1.9 An Indian call centre

Health Psychology

Health Psychology, which involves the use of psychological principles to promote changes in people's attitudes and behaviour about health and illness, is one of the newer fields of Applied Psychology.

Health Psychologists work in a variety of settings, such as hospitals, academic health research units, health authorities and university departments. They may deal with problems identified by health

care agencies, including NHS Trusts and health authorities, health professionals (such as GPs, nurses and rehabilitation therapists) and employers outside the health care system. (See Box 1.8.)

Box 1.8 The breadth of Health Psychology

- The use of psychological theories and interventions to prevent damaging behaviours (such as smoking, drug abuse and poor diet), and to change health-related behaviour in community and workplace settings.
- Promoting and protecting health by encouraging behaviours such as exercise, healthy diet, teeth brushing, health checks/self-examination.
- Investigating the processes that can explain, predict and change health and illness behaviours (health-related cognitions).
- The nature and effects of communication between health care practitioners and patients, including interventions to improve communication, facilitate adherence (such as taking medication), prepare for stressful medical procedures, and so on.
- Looking at the psychological impact of acute and chronic illness on individuals, carers and families.

Chartered Psychologists

The BPS is the representative body for Psychology and Psychologists in the UK and the only professional body for British Psychologists incorporated by Royal Charter. It has national responsibility for the development, promotion and application of Psychology for the public good, and promotes the efficiency and usefulness of its members by maintaining a high standard of professional education and knowledge.

Since 1987, the BPS has been authorised under its Charter to keep a Register of *Chartered Psychologists*. Entry to the Register is restricted to members of the Society who've applied for registration and who have the necessary qualifications or experience to have reached a standard sufficient for professional practice in Psychology without supervision (Gale, 1990).



The British Psychological Society

Figure 1.10 Logo of the British Psychological Society

All the applied areas described above (Clinical, Counselling, Forensic, Educational, Occupational and Health), plus Sport and Exercise Psychology, lead to chartered status. This is also true of Teaching and Research, which requires either (a) a PhD in psychology or (b) for teachers, at least three years' full-time experience as a teacher of Psychology including the BPS's Diploma in the Applied Psychology of Teaching. As yet, psychotherapy doesn't grant chartered status (British Psychological Society, 2004).

Ask Yourself

- What, if anything, has come as a surprise to you regarding what goes on in the name of 'Psychology'?

The language of Psychology

- As in all sciences, there's a special set of technical terms (jargon) to get used to, and this is generally accepted as an unavoidable feature of studying the subject. But over and above this jargon, Psychologists use words that are familiar to us from everyday speech in a technical way, and it's in these instances that 'doing Psychology' can become a little confusing.
- Some examples of this are 'behaviour' and 'personality'. For a parent to tell a child to 'behave yourself' is meaningless to a Psychologist's ears: behaving is something we're all doing all the time (even when we're asleep). Similarly, to say that someone 'has no personality' is meaningless because, as personality refers to what makes a person unique and different from others, you cannot help but have one!
- Other terms that denote large portions of the research of Experimental Psychology, such as memory, learning and intelligence, are *hypothetical constructs* – that is, they don't refer to anything that can be directly observed but only inferred from observable behaviour (see above, page 2). They're necessary for explaining the behaviour being observed, but there's a danger of thinking of them as 'things' or 'entities' (*reification*), rather than as a way of trying to make sense of behaviour.
- Another way in which Psychologists try to make sense of something is by comparing it with something else using an analogy. Often something complex is compared with something more simple. Since the 1950s and the development of computer science, the *computer analogy* has become very popular as a way of trying to understand how the mind works. As we saw earlier, the language of computer science has permeated the cognitive view of human beings as information processors (see Chapter 2, pp. 23–26).
- A *model* is a kind of metaphor, involving a single, fundamental idea or image; this makes it less complex than a *theory* (although sometimes the terms are used interchangeably). A theory is a complex set of interrelated statements that attempt to explain certain observed phenomena. But in practice, when we refer to a particular theory (for example, Freud's or Piaget's), we often include description as well. Thomas (1985) defines a theory as 'an explanation of how the facts fit together', and he likens a theory to a lens through which to view the subject matter, filtering out certain facts and giving a particular pattern to those it lets in. A *hypothesis* is a testable statement about the relationship between two or more variables, usually derived from a model or theory (see Chapter 3).

Psychology and common sense

Ask Yourself

- What do you understand by the term 'common sense'?
- In what ways are we all Psychologists?
- How might a 'common-sense' understanding of human behaviour and experience differ from that of professional Psychologists?

We all consider we know something about people and why they behave as they do, and so there's a sense in which we're all Psychologists (see Chapters 22 and 23, and Gross, 2014). This is a theme explored at length by Joynson in *Psychology and Common Sense* (1974). He begins by stating that human beings aren't like the objects of natural science – we understand ourselves and can already predict and control our behaviour to a remarkable extent. This creates for the Psychologist a paradoxical task: what kind of understanding can you seek of a creature that already understands itself?



"Ok, let's try reverse psychology.
Andrew... don't eat all your dinner up!"

Figure 1.11

For Joynson, the fundamental question is: If the Psychologist did not exist, would it be necessary to invent him? Conversely, for Skinner (1971), 'it is science or nothing' and Broadbent (1961) also rejects the validity of our everyday understanding of ourselves and others (Joynson calls this 'the behaviourists' prejudice'). Yet we cannot help but try to make sense of our own and other people's behaviour (by virtue of our cognitive abilities and the nature of social interaction) and, to this extent, we're all Psychologists. Heather (1976) points to ordinary language as embodying our 'natural' understanding of human behaviour: as long as human beings have lived they've been Psychologists, and language gives us an 'elaborate

and highly refined conceptual tool, developed over thousands of years of talking to each other'.

Formal versus informal Psychology

Legge (1975) and others resolve this dilemma by distinguishing between *formal* and *informal* Psychology (or professional versus amateur, scientific versus non-scientific).

Our common sense, intuitive or 'natural' understanding is unsystematic and doesn't constitute a body of knowledge. This makes it very difficult to 'check' an individual's 'theory' about human nature, as does the fact that each individual has to learn from his/her own experience. So, part of the aim of formal Psychology is to provide such a systematic body of knowledge, which represents the unobservable basis of our 'gut reactions'.

Yet it could be argued that informal Psychology *does* provide a 'body of knowledge' in the form of proverbs or sayings or folk wisdom, handed down from generation to generation (for example, 'Birds of a feather flock together', 'Too many cooks spoil the broth' and 'Don't cross your bridges before you come to them'). While these may contain at least a grain of truth, for each one there's another proverb that states the opposite ('Opposites attract', 'Many hands make light work' and 'Time and tide wait for no man' or 'Nothing ventured, nothing gained') (Rolls, 2007).

However, formal Psychology may help us reconcile these contradictory statements. For example, there's evidence to support both proverbs in the first pair (see Chapter 28). Formal Psychology tries to identify the conditions under which each statement applies; they appear contradictory if we assume that only one or the other can be true! In this way, scientific Psychology throws light on our everyday, informal understanding, rather than negating or invalidating it.

Legge (1975) believes that most psychological research should indeed be aimed at demonstrating 'what we know already', but that it should also aim to go one step further. Only the methods of science, he believes, can provide us with the public, communicable body of knowledge that we're seeking. According to Allport (1947), the aim of science is 'Understanding, prediction and control above the levels achieved by unaided common sense', and this is meant to apply to Psychology as much as to the natural sciences (see Chapters 3 and 42).

CONCLUSIONS

Psychology is a diverse discipline. Psychologists investigate a huge range of behaviours and mental or cognitive processes. There is a growing number of applied areas, in which theory and research findings are brought to bear in trying to improve people's lives in a variety of ways. During the course of its

life as a separate discipline, definitions of Psychology have changed quite fundamentally, reflecting the influence of different theoretical approaches. Rather than having to choose between our common-sense

understanding of people and the 'scientific' version, Psychology as a scientific discipline can be seen as complementing and illuminating our 'everyday' psychological knowledge.

Chapter Summary

- Early Psychologists, such as Wundt, attempted to study the mind through **introspection** under controlled conditions, aiming to analyse conscious thought into its basic elements (**structuralism**).
- Watson rejected introspectionism's **subjectivity** and replaced it with **behaviourism**. Only by regarding people as complex animals, using the methods of natural science and studying observable behaviour, could Psychology become a true science.
- **Gestalt Psychologists** criticised both structuralism and behaviourism, advocating that 'the whole is greater than the sum of its parts'. Freud's **psychoanalytic theory** was another major alternative to behaviourism.
- Following the **cognitive revolution**, people came to be seen as **information-processors**, based on the **computer analogy**. Cognitive processes, such as perception and memory, became an acceptable part of Psychology's subject matter.
- **Academic** Psychologists are mainly concerned with conducting research (**pure** or **applied**), which may focus on underlying processes/mechanisms or on the person.
- The **process approach** consists of Physiological, Cognitive and Comparative Psychology, while the **person approach** covers Developmental and Social Psychology and individual differences.
- While the process approach is largely confined to **laboratory experiments** using **non-humans**, the person approach makes greater use of **field studies** and **non-experimental methods** involving **humans**. The two approaches see species differences as **quantitative** or **qualitative** respectively.
- Most **Applied Psychologists** work in **Clinical, Counselling, Forensic, Educational** or **Occupational** Psychology. Newer fields include **Health and Sport and Exercise** Psychology.
- There's a sense in which we're all Psychologists, creating a dilemma for Psychologists: are they necessary? One solution is to distinguish between **informal/common-sense** and **formal/scientific Psychology**. The latter aims to go beyond common-sense understanding and to provide a public, communicable body of knowledge.

Recommended Reading

- Benson, N.C. & Grove, G. (1998) *Psychology for Beginners*. Cambridge: Icon Books.
Equally relevant to Chapter 2.
- Butler, G. & McManus, F. (1998) *Psychology: A Very Short Introduction*. Oxford: Oxford University Press.
- Danziger, K. (1990) *Constructing the Subject: Historical Origins of Psychological Research*. Cambridge: Cambridge University Press.
- Fancher, R.E. (1996) *Pioneers of Psychology* (3rd edn). New York: Norton.
Equally relevant (if not more so) to Chapters 2 and 3.
- McGhee, P. (2000) *Thinking Psychologically*. Basingstoke: Palgrave.
Just as relevant to Chapters 2 and 3.

Useful Websites

- www.bps.org.uk The official website of the British Psychological Society/BPS. www.apa.org/ (The official site of the American Psychological Association/APA)
- <http://changingminds.org/> (Provides huge number of links to all research areas. Especially relevant here are: (i) 'The ABC of Psychology – a glossary of 1200 terms; (ii) 'Psych Site' – links to all things psychological; and (iii) Psybox – a Psychology dictionary.)
- <http://psychology.about.com/od/profilesofmajorthinkers/p/watson.htm> (Lots of useful links to other major figures.)

CHAPTER 2

THEORETICAL APPROACHES TO PSYCHOLOGY

The Biopsychological approach

The Behaviourist approach

The Psychodynamic approach

The Humanistic approach



The Cognitive approach

The Social Constructionist approach

The Evolutionary approach

INTRODUCTION and OVERVIEW

As noted in Chapter 1, different Psychologists make different assumptions about what particular aspects of a person should be the focus of study; this helps to determine an underlying model/image of what people are like. In turn, this determines a view of psychological normality, the nature of development, preferred methods of study, the major cause(s) of abnormality, and the preferred methods and goals of treatment.

A theoretical approach is a perspective that isn't as clearly outlined as theory and that:

provides a general orientation to a view of humankind. It says, in effect, we see people as operating according to these basic principles and we therefore see explanations of human behaviour as needing to be set within these limits and with these or those principles understood. (Coolican et al., 1996)

As we shall see, most of the major approaches include two or more distinguishable theories, but within an approach they share certain basic principles and assumptions that give them a distinct 'flavour' or identity. The focus here is on the Biopsychological, Behaviourist, Psychodynamic, Humanistic, Cognitive, Social Constructionist and Evolutionary approaches.

THE BIOPSYCHOLOGICAL APPROACH

Theoretical and practical contributions

As noted in Chapter 1, Biopsychology forms part of the process approach (Legge, 1975) and a crucially important biological process with important implications for Psychology is *genetic transmission* (see Box 2.1). For example, *behaviour geneticists* attempt

Box 2.1 Basic principles and assumptions

Toates (2001) identifies four strands of the application of biology to understanding behaviour:

1. How things work in the 'here and now', i.e. the immediate *determinants* of behaviour. In some cases, a biological perspective can provide clear insights into what determines people to act in a particular way. For example, when someone treads on a thorn (a cause) and cries out in pain soon afterwards (an effect), we know the pathways of information in the body that mediate between such causes and effects. What this example shows is that behaviour is an integral part of our biological make-up.
2. We inherit *genes* from our parents and these genes play a role in determining the structure of our body; through this structure, and perhaps most obviously through that of our *nervous system* (NS), genes play a role in behaviour.
3. A combination of genes and environment affects the growth and maturation of our body, with the main focus being the NS and behaviour. Development of the *individual* is called *ontogenesis*.
4. The assumption that humans have evolved from simpler forms, rooted in Darwin's (1859) theory of *evolution*, relates to both the physical structure of our body and our behaviour: we can gain insight into behaviour by considering how it has been shaped by evolution. Development of *species* is called *phylogenesis*.

(See Figure 4.1, p. 52.)

to quantify how much of the variability of any given trait (e.g. intelligence, aggressiveness or schizophrenia) can be attributed to:

- (a) genetic differences between people (*heritability*);
- (b) *shared environments* (i.e. between-family variation, such as socio-economic status (SES)); and
- (c) *non-shared environments* (within-family variations, such as how parents treat different children differently) (Pike and Plomin, 1999).

The two major methods used by behaviour geneticists to determine how much each of these factors contributes to individual differences are twin studies and adoption studies. These methods are able to *disentangle* the effects of genetic and environmental factors, which otherwise become *confounded* (or confused). For example, knowing that the children of a parent (or both parents) with schizophrenia are significantly more likely to become schizophrenic themselves compared with their cousins or unrelated children, could be explained in terms of *either* genetic *or* environmental factors. However, as the

genetic similarity between people increases, so does the similarity of their environments: parents and offspring usually live in the same households, whereas unrelated people don't.

One way of overcoming this problem is to compare the rates of schizophrenia among monozygotic (identical) twins reared together (MZsRT) with those for monozygotic twins reared apart (MZsRA). Studies of MZs reared apart represent one kind of *adoption study*.

Biopsychology is the study of the biological bases, or the physiological correlates, of behaviour and is a branch of *neuroscience* (or the brain sciences), the study of the NS (see Critical discussion 2.1 below). 'Biopsychologists aren't interested in biology for its own sake, but for what it can tell them about behaviour and mental (cognitive) processes' (Pinel, 1993).

The influence of the Biopsychological approach can be seen very clearly in the: (i) *biomedical model* of illness and disease (see Chapter 12); (ii) the concept of addiction, which is based on the *addiction-as-disease model* (see Chapter 8).

Critical Discussion 2.1

Neuroscience: Scientific breakthrough or neurotrash?

- The claims, over recent years, to have identified the areas of the brain that underlie a wide range of human behaviours and cognitive processes, using brain imaging (in particular, functional magnetic resonance imaging (fMRI)), have produced some extreme reactions within the scientific community. The resulting multi-coloured images (see Figure 1.3) have become iconic symbols of science in general, and neuroscience in particular.
- What makes fMRI so persuasive is that it claims to show brain activity in *real time*: the areas that 'light up' while the participant is engaged in some particular task (such as reading some text or reacting to pictures of faces) are taken to be the neural *correlates* of the behaviours/cognitions involved in the task. But is this interpretation valid?
- According to Satel and Lilienfeld (2013), brain scan images aren't what they seem: they're not photographs of the brain in action in real time. Scientists cannot just look 'in' the brain and see what it does. Those 'beautiful colour-dappled images' are in fact representations of particular brain areas that are working the hardest – as measured by increased oxygen consumption. The powerful computer located within the scanning machine transforms changes in oxygen levels into the now familiar images.

... Despite well-informed inferences, the greatest challenge of imaging is that it is very difficult for scientists to look at a fiery spot on the brain scan and conclude with accuracy what is going on in the mind of the person. (Satel and Lilienfeld, 2013)

- fMRI doesn't directly measure synaptic and neuronal activity (see Chapter 4), which occurs over the course of milliseconds; by contrast, changes in oxygen consumption occur over the course of seconds.
- So, claims to have found the religious centre (the area that's most active when the participant is asked to think of God) or the love centre cannot be taken literally. Indeed, neuroscientists themselves sometimes refer disparagingly to such studies as 'blobology'; others (usually non-neuroscientists) are less restrained and talk about 'neuromania', 'neurohubris', 'heurohype' and 'neuro-bollocks' (if you're British!).
- More seriously, criminal defence lawyers (especially in the USA) are increasingly drawing on neuroscientific findings to argue that their client's brain 'made' them commit murder or some other violent act ('*neurodeterminism*'). Clearly, such arguments are central to the whole notion of criminal (and moral) responsibility and, more broadly, free will (see Chapters 21 and 49). This is symptomatic of a wider tendency to grant a kind of inherent superiority to brain-based explanations

over all other ways of accounting for human behaviour; Satel and Lilienfeld (2013) call this *neurocentrism*, a form of *reductionism* (again, see Chapter 49, and text below).

- According to Vul *et al.* (2009), the findings from many recent studies are virtually meaningless: 54 per cent of the studies in their literature search had used a seriously biased method of analysis, a problem that probably also undermines the findings of fMRI studies in other areas of Psychology. These studies had identified small areas of brain activity (voxels, 3-D pixels about the size of a pea comprising about one million neurons: Koch, 2012b) that varied according to the experimental condition of interest (e.g. being rejected or not), and had then focused on just those voxels that showed a correlation, above a given threshold, with the psychological measure (e.g. feeling rejected).
- Ideally, they should have used *two* sets of scans: one set to identify which voxel clusters are highly activated during the experiment and a second set to confirm that the first wasn't the result of random fluctuations (similar to static/white noise on an untuned television). But many researchers made the mistake of using just one data set for both the initial and final analysis: this allows the random noise to inflate an apparent link to a behavioural response or trait.
- Finally, they'd arrived at their published brain-behaviour correlations by taking the average correlation from among just this select group of voxels – or, in some cases, just one 'peak voxel'. According to Vul *et al.* (2009), this procedure makes it almost impossible not to find a significant brain-behaviour correlation. (Social neuroscience is discussed in Meet the Researcher, Chapter 22.)
- According to Chen (2013), these faulty methods of data collection seem to be used less often now.

However, he cites a 2012 study which showed that an fMRI experiment could be analysed in nearly 7000 ways, with results varying hugely depending on which method of analysis was chosen. With so much flexibility, neuroimagers can unintentionally (or indeed deliberately) analyse their data in a way that produces the most favourable results.

- However, the reverse problem has also been identified: based on a survey of 730 studies examining the risk factors and treatment for neurological disorders (such as chronic pain, see Chapter 12; and Alzheimer's disease, see Chapter 39), the average 'statistical power' was about 20 per cent; in other words, four out of five studies might have missed the actual biological effect or mechanism they were looking for (and so reported 'false negatives'). The most common reason for these 'failures' was that the sample size was too small (Chen, 2013).
- In the context of education, Bennett (2013) dismisses the creative right brain/logical left brain distinction (see Chapter 4) as a 'neuromyth'. Satel and Lilienfeld (2013) apply the criticisms described above to the neuroscientific study of addiction (see Chapter 8), advertising ('neuromarketing', see Chapter 24), and lie detection.
- However, Robson (2013) warns that the danger of such 'neuro-scepticism' is that we may throw the baby out with the bathwater. Brain imaging is, after all, an infant technology which is developing very quickly; there are now new, more finely tuned scans that are less error-prone (such as portable scanners that allow us to take a peek at brain activity in more natural settings).

An evaluation of the Biopsychological approach

- The Biopsychological approach is *reductionist*: it attempts to explain human – and non-human – psychological processes and behaviour in terms of the operation of physical/physiological structures (such as interactions between neurons/nerve cells and hormones). In turn, these processes are explained in terms of smaller constituent processes, such as synaptic transmission between neurons. Ultimately, reductionism claims that all Psychology can be explained in terms of biology, which in turn can be understood in terms of chemistry and physics. Some Psychologists believe that this

loses sight of the whole person and fails to reflect experience and everyday interaction with other people. (See Critical discussion 2.1 and Chapter 49.)

- Reductionism has been effective in scientific research. For example, the greatest insight into the cause and possible cure of Parkinson's disease (PD) has been obtained from reducing it to the biological level: we know that Parkinson's disease is caused by the malfunction and death of certain neurons in a particular part of the brain (Toates, 2001). However, while there may be a fairly straightforward causal link between this neuron malfunction and the movement disorder that characterises PD, things are rather more complex

when it comes to explaining the associated mood disorder. This, in turn, raises the more general *philosophical* issue regarding the relationship between the brain and the mind (or consciousness) (the ‘mind–body’ or ‘brain–mind’ problem; see Gross, 2014).

- The Biopsychological approach tends to remove the person from his/her social context, focusing almost exclusively on physical processes within the body. This is both another form of reductionism and a form of *determinism*. However, outside the laboratory there’s a limit to how far biological manipulation can take place in order to reveal a simple cause–effect behavioural chain (a major assumption of determinism): biological factors need to be interpreted within a context of rather subtle psychological principles (Toates, 2001).
- The Human Genome Project (HGP) was a 13-year research project, aimed at identifying all human genes (the *genome*), that is, determining the sequences of chemical base pairs that make up human DNA (see Chapter 50). This was duly completed in 2003, the achievement described as a ‘landmark event’ in the biomedical sciences (Carter, 2004). Several writers discuss the possibility that unethical scientists may abuse this knowledge in the form of genetic manipulation/engineering and selective breeding (*eugenics*, see Chapters 41 and 47).

Ask Yourself

- Dip into some of these chapters, just to familiarise yourself with the range of topic areas to which the Biopsychological approach has been applied (and to help you find your way round the book).

THE BEHAVIOURIST APPROACH

Basic principles and assumptions

As we saw in Chapter 1, Watson (1913) revolutionised Psychology by rejecting the introspectionist approach and advocating the study of observable behaviour. Only by modelling itself on the natural sciences could Psychology legitimately call itself a science. Watson was seeking to transform the very subject matter of Psychology (from ‘mind’ to ‘behaviour’) and this is often called *methodological behaviourism*. According to Skinner (1987):

‘Methodological’ behaviourists often accept the existence of feelings and states of mind, but do not deal with them because they are

not public and hence statements about them are not subject to confirmation by more than one person.

In this sense, what was revolutionary when Watson (1913) first delivered his ‘behaviourist manifesto’ (see Box 3.2, p. 40) has become almost taken for granted, ‘orthodox’ Psychology. It could be argued that all psychologists are methodological behaviourists (Blackman, 1980). Belief in the importance of empirical methods, especially the experiment, as a way of collecting data about humans (and non-humans), which can be quantified and statistically analysed, is a major feature of *mainstream Psychology* (see Chapter 3). By contrast, as Skinner (1987) asserts:

‘Radical’ behaviourists ... recognise the role of private events (accessible in varying degrees to self-observation and physiological research), but contend that so-called mental activities are metaphors or explanatory fictions and that behaviour attributed to them can be more effectively explained in other ways.

For Skinner, these more effective explanations of behaviour come in the form of the principles of reinforcement derived from his experimental work with rats and pigeons. What’s ‘radical’ about Skinner’s *radical behaviourism* is the claim that feelings, sensations and other private events cannot be used to explain behaviour, but are to *be explained in* an analysis of behaviour. Methodological behaviourism proposes to ignore such inner states (they’re inaccessible). But for Skinner they’re irrelevant: they can be translated into the language of reinforcement theory (Garrett, 1996).

Given this important distinction between methodological and radical behaviourism, we need to consider some principles and assumptions that apply to Behaviourism in general.

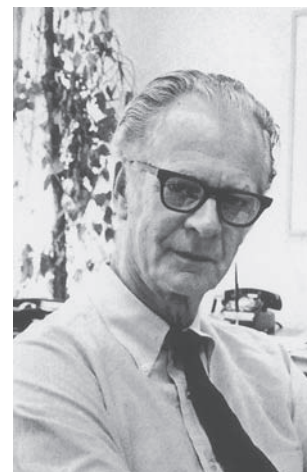


Figure 2.1 B.F. Skinner (1904–1990)

Box 2.2 Basic principles and assumptions made by the Behaviourist approach

- Behaviourists emphasise the role of environmental factors in influencing behaviour, to the near exclusion of innate or inherited factors (see Chapter 50). This amounts essentially to a focus on learning. The key form of learning is conditioning, either *classical* (Pavlovian or respondent), which formed the basis of Watson's behaviourism, or *operant* (instrumental), which is at the centre of Skinner's radical behaviourism. Classical and operant conditioning are often referred to (collectively) as learning theory, as opposed to 'theories of learning', which usually implies non-behaviourist theories (see Chapter 11).
- Behaviourism is often referred to as 'S-R' Psychology ('S' standing for 'stimulus' and 'R' for 'response'). Both classical and operant conditioning explain observable behaviour (responses) in terms of environmental events (stimuli), but they define the stimulus and response relationship in fundamentally different ways. Only in classical conditioning is the stimulus seen as triggering a response in a predictable, automatic way, and this is what's conveyed by 'S-R' Psychology. It is, therefore, a mistake to describe operant conditioning as an 'S-R' approach (see Chapter 11).
- Both types of conditioning are forms of *associative learning*, whereby associations or connections are formed between stimuli and responses that didn't exist before learning takes place.
- For Watson, introspectionism invoked too many vague concepts that are difficult, if not impossible, to define and measure. According to the *law of parsimony* (or 'Occam's razor'), the fewer assumptions a theory makes, the better (more 'economical' explanations are superior).
- Behaviourists stress the use of *operational definitions* (defining concepts in terms of observable, measurable, events).
- The aim of a science of behaviour is to *predict* and *control* behaviour.

Theoretical contributions

Behaviourism made a massive contribution to Psychology, at least up to the 1950s, and explanations of behaviour in conditioning terms recur throughout this book. For example, apart from a whole chapter on learning and conditioning (Chapter 11), imagery as a form of organisation in memory and as a memory aid is based on the principle of association, and the interference theory of forgetting is largely couched in

stimulus–response terms (Chapter 17). Language, moral and gender development (Chapters 19, 35 and 36) have all been explained in terms of conditioning, and some influential theories of the formation and maintenance of relationships focus on the concept of reinforcement (Chapter 28). The behaviourist approach also offers one of the major models of abnormal behaviour (Chapter 45). Finally, Skinner's notorious views on free will are discussed in detail in Chapter 49.

Theorists and researchers critical of the original, 'orthodox' theories have modified and built on them, making a huge contribution in the process. Noteworthy examples are Tolman's (1948) *cognitive behaviourism* (see Chapter 11) and Bandura's *social learning theory* (see Chapters 29, 35 and 36).

Ask Yourself

- Repeat the exercise suggested for the biopsychological approach (see p. 16).

Practical contributions

Methodological behaviourism, with its emphasis on experimentation, operational definitions, and the measurement of observable events (see Box 2.1), has been a major influence on the practice of scientific Psychology in general (what Skinner (1974) called the 'science of behaviour'). This is quite unrelated to any views about the nature and role of mental events. Other, more 'tangible' contributions include:

- *Behaviour therapy* and *behaviour modification* (based on classical and operant conditioning, respectively) as major approaches to the treatment of abnormal behaviour (see Chapter 45) and one of the main tools in the Clinical Psychologist's 'kit bag' (see Box 1.4, p. 7)
- *Behavioural pharmacology* involves the use of schedules of reinforcement (see Chapter 11) to assess the behavioural effects of new drugs that modify brain activity; most importantly, the research has illustrated how many behavioural effects of drugs are determined as much by the current behaviour and reinforcement contingencies as by the effects of the drug on the brain (Leslie, 2002, see Chapter 8)
- *Biofeedback* as a non-medical treatment for stress-related symptoms, derived from attempts to change rats' autonomic physiological functions through the use of operant techniques (see Chapter 12)
- *Teaching machines* and *programmed learning*, which now commonly take the form of *computer-assisted learning* (CAL).

An evaluation of behaviourism

In addition to the criticisms – both general and specific – that occur in the particular chapters where behaviourist explanations are presented, two evaluative points will be made here:

1. The ‘Skinner box’ is an ‘auto-environmental chamber’, in which rats’ and pigeons’ environments can be totally controlled by the experimenter (see Chapter 11). This is central to Skinner’s analysis of behaviour. A rat pressing a lever was intended to be equivalent to a cat operating an escape latch in Thorndike’s puzzle box (1898), so counting the number of lever presses (the response rate) became the standard measure of operant learning. Despite Skinner’s claim that he doesn’t have a theory, ‘the response’ in operant conditioning has largely considered only the *frequency* of behaviour, ignoring intensity, duration and quality. As Glassman (1995) observes:

While the focus on frequency was a practical consideration, it eventually became part of the overall conceptual framework as well – a case of research methods directing theory.

But in everyday life, frequency isn’t always the most meaningful aspect of behaviour. For example, should we judge an author’s worth by how many books s/he publishes, rather than their content?

Ask Yourself

- Do you agree with Skinner’s claim that thoughts and other ‘covert behaviours’ don’t explain our behaviour (because they cannot determine what we do)?

2. Skinner’s claim that human behaviour can be predicted and controlled in the same way as the behaviour of non-humans is usually accepted only by other behaviour analysts. Possessing language allows us to communicate with each other and to think about ‘things’ that have never been observed (and may not even exist), including rules, laws and principles (Garrett, 1996). While these can only be expressed in or thought about in words, much of our behaviour is governed by them. According to Garrett, when this happens:

... behaviour is now shaped by what goes on inside their [people’s] heads ... and not simply by what goes on in the external environment.

So, what people think is among the important variables determining what they do and say, the very opposite of what Skinner’s radical behaviourism claims.

However, behaviour analysts recognise the limitations of their approach. For example, Leslie (2002) admits that

operant conditioning cannot provide a complete account of psychology from a behavioural perspective, even in principle. Similarly, O’Donohue and Ferguson (2001) acknowledge that the science of behaviour cannot account for creativity, as in music, literature and science.



Figure 2.2 Behaviourists have difficulty explaining creativity or any kind of novel behaviour

THE PSYCHODYNAMIC APPROACH

The term ‘psychodynamic’ denotes the active forces within the personality that motivate behaviour, and the inner causes of behaviour (in particular, the unconscious conflict between the different structures that compose the whole personality). While Freud’s *psychoanalytic theory* was the original psychodynamic theory, the psychodynamic theories of Jung (1964), Adler (1927) and Erikson (1950) aren’t psychoanalytic. Because of their enormous influence, Freud’s ideas will be the focus of this section.

Basic principles and assumptions

Freud’s concepts are closely interwoven, making it difficult to know where a description of them should begin (Jacobs, 1992). Fortunately, Freud himself stressed the acceptance of certain key theories as essential to the practice of *psychoanalysis*, the form of psychotherapy he pioneered and from which most others are derived.

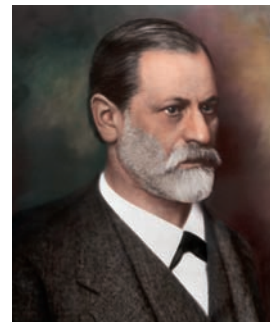


Figure 2.3 Sigmund Freud (1856–1939)

Box 2.3 The major principles and assumptions of Psychoanalytic theory

- Much of our behaviour is determined by unconscious thoughts, wishes, memories, and so on. What we're consciously aware of at any one time represents the tip of an iceberg: most of our thoughts and ideas are either not accessible at that moment (*pre-conscious*) or are totally inaccessible (*unconscious*). These unconscious thoughts and ideas can become conscious through the use of special techniques, such as *free association*, *dream interpretation* and *transference*, the cornerstones of psychoanalysis (see Chapter 45).
- Much of what's unconscious has been made so through repression, whereby threatening or unpleasant experiences are 'forgotten' (see Chapter 21, pp. 355–57). They become inaccessible, locked away from our conscious awareness. This is a major form of *ego defence* (see Chapter 42). Freud singled out repression as a special cornerstone 'on which the whole structure of psychoanalysis rests. It is the most essential part of it' (Freud, 1914). Repression is closely related to *resistance*, interpretation of which is another key technique used in psychoanalysis (see Chapter 45).
- According to the *theory of infantile sexuality*, the sexual instinct or drive is active from birth and develops through a series of five *psychosexual stages*. The most important of these is the *phallic stage* (spanning the ages 3–5/6), during which all children experience the Oedipus complex (see Chapter 35). In fact, Freud used the German word 'Trieb', which translates as 'drive', rather than 'Instinkt', which was meant to imply that experience played a crucial role in determining the 'fate' of sexual (and aggressive) energy (see Box 50.2, p. 872).
- Related to infantile sexuality is the general impact of early experience on later personality (see Chapter 32). According to Freud (1949):

It seems that the neuroses are only acquired during early childhood (up to the age of 6), even though their symptoms may not make their appearance until much later ... the child is psychologically father of the man and ... the events of its first years are of paramount importance for its whole subsequent life.

Theoretical contributions

As with behaviourist accounts of conditioning, many of Freud's ideas and concepts have become part of mainstream Psychology's vocabulary. You don't have to be 'Freudian' to use concepts such as 'repression', 'unconscious', and so on, and many of the vast number of studies of different aspects of the theory have been

conducted by critics hoping to discredit it (such as Eysenck, 1985; Eysenck and Wilson, 1973).

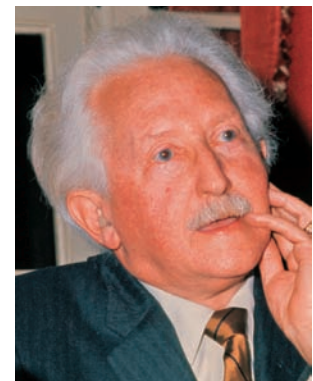
Also like behaviourist theories, Freud's can be found throughout Psychology. His contribution is extremely rich and diverse, offering theories of motivation (see Chapter 9), dreams and the relationship between sleep and dreams (Chapter 7), forgetting (Chapter 21), attachment and the effects of early experience (Chapter 32), moral and gender development (Chapters 35 and 36), aggression (Chapter 29) and abnormality (Chapter 45). Psychoanalytic theory has also influenced Gould's (1978, 1980) theory of the evolution of adult consciousness (Chapter 38) and Adorno *et al.*'s (1950) authoritarian personality account of prejudice (Chapter 25).

Finally, and as noted earlier, Freud's theories have stimulated the development of alternative theories, often resulting from the rejection of some of his fundamental principles and assumptions, but reflecting his influence enough for them to be described as psychodynamic. Some major examples include:

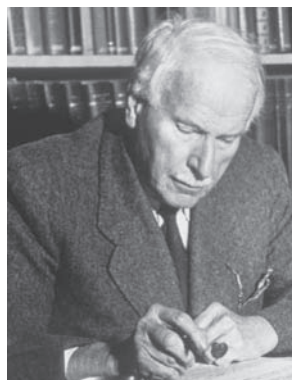
- *Ego psychology* (e.g. Freud's daughter, Anna Freud, 1936)
- *Psychosocial theory* (Erikson, 1950, 1968)
- *Analytical psychology* (Jung, 1964)
- *Individual psychology* (Adler, 1927)
- *Object relations school* (Fairbairn, 1952; Klein, 1932; Mahler, 1975; Winnicott, 1965).



Anna Freud (1895–1982)



Erik Erikson (1902–1994)



Carl Gustav Jung (1875–1961)



Alfred Adler (1870–1937)

Figure 2.4 Major alternative psychodynamic theorists

Ask Yourself

- Repeat the exercise suggested for the Biopsychological approach (see p. 16).

Practical contributions

The current psychotherapy scene is highly diverse, with only a minority using Freudian techniques (see Chapter 45), but, as Fancher (1996) points out:

Most modern therapists use techniques that were developed either by Freud and his followers or by dissidents in explicit reaction against his theories. Freud remains a dominating figure, for or against whom virtually all therapists feel compelled to take a stand.

Both Rogers, the major humanistic therapist (see below) and Wolpe, who developed systematic desensitisation (a major form of behaviour therapy, see Chapter 45), were originally trained in Freudian techniques. Perls, the founder of Gestalt therapy, Ellis, the founder of rational emotive therapy (RET) (see Chapter 45) and Berne, who devised transactional analysis (TA), were also trained psychoanalysts.

Even Freud's fiercest critics concede his influence, not just within world psychiatry but in philosophy, literary criticism, history, theology, sociology, and art and literature. Freudian terminology is commonly used in conversations between therapists well beyond Freudian circles, and his influence is brought daily to therapy sessions as part of the cultural background and experience of nearly every client (Jacobs, 1992).

Many mental health practitioners (including psychotherapists, counsellors and social workers), although not formally trained as psychoanalysts, have incorporated elements of Freudian thought and technique into their approaches to helping their clients (Nye, 2000).

An evaluation of the psychodynamic approach

- A criticism repeatedly made of Freudian (and other psychodynamic) theories is that they're unscientific because they're *unfalsifiable* (incapable of being disproved). For example, if the Freudian prediction that 'dependent' men will prefer big-breasted women is confirmed, then the theory is supported. However, if such men actually prefer small-breasted women (Scodel, 1957), Freudians can use the concept of *reaction formation* (an ego-defence mechanism, see Table 42.4, p. 728) to argue that an unconscious fixation with large breasts may manifest

itself as a conscious preference for the opposite, a clear case of 'heads, I win, tails you lose' (Eysenck, 1985; Popper, 1959).

- However, it's a mistake to see reaction formation as typical of Freudian theory as a whole. According to Kline (1984, 1989), for example, the theory comprises a collection of hypotheses, some of which are more central to the theory than others, and some of which have more supporting evidence than others. Also, different parts of the theory have been tested using different methods (see Chapter 42).
- According to Zeldow (1995), the history of science reveals that those theories that are the richest in explanatory power have proved the most difficult to test empirically. For example, Newton's Second Law couldn't be demonstrated in a reliable, quantitative way for 100 years, and Einstein's general theory of relativity is still untestable. But even if it were true that psychoanalytic theory were untestable (as claimed by Eysenck, Popper and others):

... the same thing could (and should) be said about any psychological hypotheses involving complex phenomena and worthy of being tested ... psychoanalytic theories have inspired more empirical research in the social and behavioural sciences than any other group of theories ... (Zeldow, 1995)

- Support for certain aspects of Freud's theories has been provided by the relatively new sub-discipline of *neuropsychanalysis*, one of the many spin-offs of neuroscientific research (see Critical Discussion 2.1 and Chapter 42). According to Bargh (2014), contemporary Cognitive Psychologists have recast the Freudian worldview, adopting a more pragmatic view of what defines our unconscious self. For example, Nobel laureate Daniel Kahneman (2011) has described the modern distinction between *automatic* and *controlled* thought processes (corresponding to unconscious and conscious, respectively); these are discussed in relation to decision-making in Chapter 20.
- Automatic thought processes represent one facet of the 'cognitive unconscious'. This can manifest itself in several ways, including *stereotyping* (see Chapter 22), the cognitive component of prejudice (see Chapter 25). A way of tapping the unconscious emotional/affective component of prejudice is through the Implicit Association Test (IAT) (Greenwald *et al.*, 1998).
- Bargh (2014) also describes unconscious (or 'non-conscious') dimensions to emotion (see Chapter 10), observational learning (a major feature of social learning theory, see above), advertising

(see Chapter 24), the treatment of alcoholism (see Chapter 8) and antisocial and prosocial behaviour (see Chapters 29 and 30).

- Freud's theory provides methods and concepts that enable us to interpret and 'unpack' underlying meanings (it has great *hermeneutic strength*). Popper's and Eysenck's criticism above helps to underline the fact that these meanings (both conscious and unconscious) cannot be measured in any precise way. Freud offers a way of understanding that, while less easily tested, may capture the nature of human experience and action more appropriately (Stevens, 1995; see Chapter 3). According to Fancher (1996):

Although always controversial, Freud struck a responsive chord with his basic image of human beings as creatures in conflict, beset by irreconcilable and often unconscious demands from within as well as without. His ideas about repression, the importance of early experience and sexuality, and the inaccessibility of much of human nature to ordinary conscious introspection have become part of the standard western intellectual currency.

- Reason (2000) believes it's time to re-acknowledge Freud's greatness as a Psychologist. Like James, he had a rare gift for describing and analysing the phenomenology of mental life. According to Kline (1998):

... after 100 years, Freudian theory cannot be uncritically accepted just as it cannot be totally rejected. However ... Freudian theory contains some profound observations and understanding of human behaviour. These must be incorporated into any adequate human psychology, not only its theory but also its methods ...

THE HUMANISTIC APPROACH

Basic principles and assumptions

As we noted earlier, Rogers, a leading Humanistic Psychologist (and therapist), was trained as a psychoanalyst. Although the term 'humanistic psychology' was coined by Cohen (1958), a British Psychologist, this approach emerged mainly in the USA during the 1950s. Maslow (1968), in particular, gave wide currency to the term 'humanistic', calling it a 'third force' (the other two being Behaviourism and Freudianism). However, Maslow didn't reject these approaches but hoped to unify them, thus integrating both subjective and objective, the private and public aspects of the person, and providing a complete, holistic Psychology.

Box 2.4 Some basic principles and assumptions of the Humanistic approach

- Both the Psychoanalytic and Behaviourist approaches are *deterministic*. People are driven by forces beyond their control, either unconscious forces from within (Freud) or reinforcements from outside (Skinner). Humanistic Psychologists believe in free will and people's ability to choose how they act (see Chapter 49).
- A truly scientific Psychology must treat its subject matter as fully human, which means acknowledging individuals as interpreters of themselves and their world. Behaviour, therefore, must be understood in terms of the individual's *subjective experience*, from the perspective of the actor (*a phenomenological approach*, which explains why this is sometimes called the 'humanistic-phenomenological' approach). This contrasts with the *positivist approach* of the natural sciences, which tries to study people from the position of a detached observer. Only the individual can explain the meaning of a particular behaviour and is the 'expert' – not the investigator or therapist.
- Maslow argued that Freud supplied the 'sick half' of Psychology, through his belief in the inevitability of conflict, neurosis, innate self-destructiveness, and so on, while he (and Rogers) stressed the 'healthy half'. Maslow saw *self-actualisation* at the peak of a *hierarchy of needs* (see below and Chapter 9), while Rogers talked about the *actualising tendency*, an intrinsic property of life, reflecting the desire to grow, develop and enhance our capacities. A *fully functioning person* is the ideal of growth. Personality development naturally moves towards healthy growth (unless it's blocked by external factors), and should be considered the norm (see Chapter 42).
- Maslow's contacts with Wertheimer and other Gestalt Psychologists (see Box 1.1 and Chapter 15) led him to stress the importance of understanding the whole person, rather than separate 'bits' of behaviour.

(Based on Glassman, 1995)

Theoretical contributions

Maslow's hierarchy of needs (see Chapter 9, pp. 144–5) distinguishes between motives shared by both humans and non-humans and those that are uniquely human, and can be seen as an extension of the psychodynamic approach. Freud's id would represent physiological needs (at the hierarchy's base), Horney (a major critic of the male bias in Freud's theory, see Chapter 35) focused on the need for safety and

love (corresponding to the next two levels), and Adler (see above) stressed esteem needs (at the fourth level). Maslow added self-actualisation to the peak of the hierarchy (Glassman, 1995).



Figure 2.5 Abraham H. Maslow (1908–1970)

According to Rogers (1951), while awareness of being alive is the most basic of human experiences, we each fundamentally live in a world of our own creation and have a unique perception of the world (the *phenomenal field*). It's our *perception* of external reality that shapes our lives (not external reality itself). Within our phenomenal field, the most significant element is our sense of self, 'an organised consistent gestalt, constantly in the process of forming and reforming' (Rogers, 1959, see Chapter 42). This view contrasts with those of many other self-theorists, who see it as a central, unchanging core of personality (see Chapter 33).

Ask Yourself

- Repeat the exercise as for the Biopsychological, Behaviourist and Psychodynamic approaches.

Practical contributions

By far the most significant practical influence of any Humanistic Psychologist is Rogers' form of psychotherapy: originally (in the 1950s) called '*client-centred therapy*' (CCT), since the mid-1970s it has been known as '*person-centred therapy*' (PCT) (see Chapter 45). According to Rogers (1959):

... psychotherapy is the releasing of an already existing capacity in a potentially competent individual.

The change in name was meant to reflect more strongly that the person, in his/her full complexity,

is the centre of focus. Also, Rogers wanted to convey that his assumptions were meant to apply broadly to almost all aspects of human behaviour – not just to therapeutic settings. According to Nye (2000):

A wide range of individuals – psychotherapists, counsellors, social workers, clergy and others – have been influenced by Rogers' assumptions that, if one can be a careful and accurate listener, while showing acceptance and honesty, one can be of help to troubled persons.

Less well known is the prolific research that Rogers undertook during the 1940s, 1950s and 1960s into this form of therapy. According to Thorne (1992):

This body of research constituted the most intensive investigation of psychotherapy attempted anywhere in the world up to that time ... The major achievement of these studies was to establish beyond all question that psychotherapy could and should be subjected to the rigours of scientific enquiry.

Rogers helped develop research designs (such as Q-sorts) which enable objective measurement of the self-concept, ideal self and their relationship over the course of therapy, as well as methodologies (such as rating scales and the use of external 'consultants') for exploring the importance of therapist qualities. These innovations continue to influence therapeutic practice, and many therapists are now concerned that their work should be subjected to research scrutiny. Research findings are now more likely than ever before to affect training procedures and clinical practice across many different therapeutic orientations (Thorne, 1992, see Chapter 45).

By emphasising the therapist's personal qualities, Rogers opened up psychotherapy to Psychologists and contributed to the development of therapy provided by non-medically qualified therapists (*lay therapy*). This is especially significant in the USA, where (until recently) psychoanalysts had to be psychiatrists (i.e. medically qualified). Rogers originally used the term 'counselling' as a strategy for silencing psychiatrists who objected to Psychologists practising 'psychotherapy'. In the UK, the outcome of Rogers' campaign has been the evolution of a counselling profession whose practitioners are drawn from a wide variety of disciplines. Counselling skills are used in a variety of settings throughout education, the health professions, social work, industry and commerce, the armed services, and international organisations (Thorne, 1992).



Figure 2.6 Carl Rogers (1902–1987)

An evaluation of the humanistic approach

- According to Wilson *et al.* (1996), the Humanistic approach isn't an elaborate or comprehensive theory of personality, but should be seen as a set of uniquely personal theories of living created by humane people optimistic about human potential. It has wide appeal to those who seek an alternative to the more mechanistic, deterministic theories.
- However, like Freud's theory, many of its concepts are difficult to test empirically (such as self-actualisation), and it cannot account for the origins of personality. Since it describes but doesn't explain personality, it's subject to the *nominal fallacy* (Carlson and Buskist, 1997).
- Nevertheless, for all its shortcomings, the Humanistic approach represents a counterbalance to the Psychodynamic (especially Freud) and Behaviourist approaches, and has helped to bring the 'person' back into Psychology. Crucially, it recognises that people help determine their own behaviour and aren't simply slaves to environmental contingencies or to their past. The self, personal responsibility and agency, choice, and free will are now legitimate issues for psychological investigation.

THE COGNITIVE APPROACH

Basic principles and assumptions

Despite its undoubted influence within Psychology as a whole (see below and Chapter 3), it's more difficult to define the boundaries of Cognitive Psychology compared with the other major approaches. Its identity isn't as clearly established, and

it cannot be considered to be a specific, integrated set of assumptions and concepts. It has several contemporary forms, with many theories, research programmes and forms of psychotherapy having a 'cognitive tilt' (Nye, 2000).

Also, there's no specific figure who can be identified as being central to its development in the same way as Watson, Freud and Rogers can with their respective approaches. As Wade and Tavris (1990) say:

Cognitive psychology does not yet have a unifying theory, and unlike other 'brands' of psychology ... it lacks an acknowledged spokesperson.

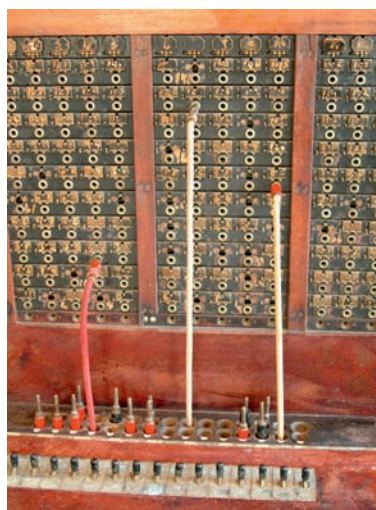


Figure 2.7 The mind as an information-processing device

Theoretical contributions

We noted earlier that two major modifications to 'orthodox' learning theory are Tolman's *cognitive behaviourism* and *social learning theory* (associated primarily with Bandura). Both these theories stress the central role of cognitive processes in the learning process. The influence of the information-processing approach is obvious in relation to attention, pattern recognition and memory (see Box 2.6), but it has permeated many other areas of Psychology. As noted in Chapter 1, *social cognition* is now a commonly used term to refer to many aspects of the perception of people (see Chapter 22), attribution (see Chapter 23), attitudes and attitude change (including prejudice, see Chapters 24 and 25), and other areas of Social Psychology.

The information-processing approach also represents an increasingly influential view of cognitive development (see Chapter 34) and of the nature of intelligence (see Chapter 41). Cognitive behaviour therapy (CBT) also represents a major approach to the treatment of mental disorders (see Chapter 45 and 'Practical contributions' below).