The human sciences include psychology, economics and anthropology.

Human sciences study human behaviour in a systematic way based on observation, and seek to discover laws and theories.

Features almost unique to humans include:

- the mirror test: humans (and some chimpanzees) recognise themselves in a mirror
- language
- reason
- free-will
- creativity.

Discussion: Activity 9.1, p. 258

Observation (p. 258)

Problems:

- You cannot observe people’s minds or their actual thinking.
- People tend to overestimate their strengths and underestimate their weaknesses, e.g. in a study of one million US high school students, all ranked themselves above average in their ability to get on with others.

Loaded questions (p. 259)

Some questions have hidden assumptions that encourage a particular answer. If you ask questions with skill you may be able to make people give the answer you want.

Discussion: Activity 9.3, p. 259

The observer effect (p. 261)

Being observed may change people’s behaviour.

Discussion: Activity 9.4, p. 261

Habituation is used to overcome the observer effect: e.g. anthropologists may ‘go native’ so the observed eventually behave normally.
Expectations may influence behaviour, e.g.:

**Psychology**
- An experiment divided children randomly into two groups: bright and less bright.
- The ‘bright’ group made more progress in the following year (due to higher teacher expectations?).

**Discussion:** Activity 9.5, p. 263

**Economics**
- People’s expectations affect the stock market.

**Discussion:** Activity 9.6, p. 263

**Anthropology**
- It is claimed that witch doctor spells can make people die (voodoo death).
- One explanation for this is that people in certain cultures are conditioned from birth to expect voodoo to work.

**Discussions:** Activities 9.7 and 9.8, p. 264

**Measurement (pp. 264–7)**

Differing use of statistics can change the interpretation of results of experiments.

**Discussion:** Activity 9.10, p. 267

Some things are not measurable on a common scale so are difficult to compare.

**Discussion:** Activity 9.11, p. 267
Experiments (pp. 268–70)

Difficulties of conducting experiments in social science

Human scientists operate in a situation where it is impossible to run controlled experiments because:

- there may be too many variables
- the artificiality of experiments may change behaviour
- ethics may prevent experiments that have a negative effect on people.

Human scientists may have to wait for nature to provide the appropriate experimental conditions, e.g. economic history can provide experimental data; we can learn something about normal brain functions by looking at people who have suffered brain damage.

The Milgram experiment

- Actors played the role of unseen (but heard) learners, strapped to a chair with electrodes on their wrists.
- Volunteers acted as teachers. They saw the learners strapped in and were then taken to another room.
- Teachers asked the learners memory test questions.
- Teachers were told to punish false answers with increasing levels of electric shocks, labelled slight shock, strong shock, intense shock, danger.
  
  $120\text{ volts} \rightarrow \text{learner complained}^*$
  $150\text{ volts} \rightarrow \text{learner demanded that experiment be stopped}^*$
  $270\text{ volts} \rightarrow \text{learner screamed}^*$
  $330\text{ volts} \rightarrow \text{ominous silence}$
  $^*\text{ It was just an actor pretending!}$

- If a teacher hesitated, they were a) told by a scientist that it was important to continue the experiment, and b) reassured that they would not be held responsible.
- Result: almost two-thirds of the volunteers continued to 450 volts. Many expressed concern about what they were doing, but still didn’t refuse to continue.
- However, if paired with two other actor-teachers who rebelled, only 10% of volunteers continued to 450 volts.
- This poses serious questions about human nature and our willingness to follow orders.
- Questions about the ethics of the experiment were also raised – the volunteers were misled about what they were doing, and may have suffered from a permanent loss of self-esteem.

Discussions: Activities 9.13 and 9.14, pp. 269, 270
Laws (p. 270)

**Human predictability**
The idea of human free-will seems to conflict with the idea of human behaviour conforming to predictable laws.

**Discussion:** Activity 9.15, p. 270

**The law of large numbers**
- In a large population random variations tend to cancel out anomalies.
- This enables us to predict group behaviour.
- However, the behaviour of an individual cannot be predicted with any certainty.

**Discussion:** Activity 9.16, p. 271

**Trends and laws (p. 271)**
- Human sciences do not have a good record of prediction, e.g. demographers do not agree about the size of world population in 50 years’ time.
- In 1973 Paul Ehrlich predicted that there would be 65 million starving Americans by 1990 (which ironically turned out to be the number of Americans who were overweight in 1990)!
- Economic forecasters also often get it wrong. The Phillips curve seemed to work in theory but when applied to reality it broke down.
- The fallacy of *post hoc ergo propter hoc* (see Chapter 5): just because two things correlate, the first is not necessarily the cause of the second.

**Discussion:** Activity 9.17, p. 272

**The complexity of real-world situations (p. 272)**
- In real life there is a complex web of causes, effects and combinations of both.
- Because of free-will people do not always do what you expect them to do.

**Summary: the role of laws in human sciences (p. 273)**
- The law of large numbers means we can sometimes make accurate predictions about the behaviour of a large population.
- However, predictions based on past trends can be unreliable forecasters of the future.
- The complexity of the real world makes it difficult to unearth reliable simple laws.
The relationship between natural and human sciences (p. 273)

Ernest Rutherford (1871–1937): ‘The only possible conclusion the social sciences can draw is: some do, some don’t.’

Discussion: Activity 9.18, p. 274

Reductionism (p. 274)

Basis:
Social science may one day be supported by advances in natural sciences, such as physics. For example:
Economics → explained by psychology → explained by neuroscience → explained by physics

Criticisms:
- The reductive fallacy is the fallacy of saying that just because A is composed of B, it follows that A is nothing but B, e.g. a human being is nothing but a bunch of chemicals.
- There are good reasons for doubt this approach – when simple things are combined the results cannot always be predicted.
- It therefore seems unlikely that we will ever be able to explain the human sciences in terms of physics.

Holism (p. 275)

Basis:
The whole is greater than the sum of the parts – that is, the whole contains elements that cannot be analysed by examination of the parts, e.g.:
- parts of a cat do not work unless in a live cat
- groups react differently from individuals.

Discussion: Activity 9.19, p. 276

The Verstehen position (p. 276)

Verstehen = German for ‘understanding’

Social practices (e.g. traffic rules, sports) cannot be determined from the study of atoms and molecules. They can only be understood from inside the group.

Discussion: Activity 9.20, p. 277
Since human sciences are explained in terms of meaning (rather than mechanism):

- meaning may depend on context
- unintended consequences of actions need to be taken into account
- it is therefore difficult to generalise into universal laws.

**Criticism:** Some human traits do seem to be universal and independent of culture, e.g. gossiping, joking.

**The problem of ‘confirmation bias’ (p. 278)**

Researchers may just look for evidence to support pre-existing ideas. (See also Chapter 8.)

**Predictions (p. 279)**

- There are too many variables in social science to be able to make accurate predictions.
- Some predictions made by social scientists are valuable in that they may stimulate us to try to prevent possible negative situations in the future.
- *Verstehen*: the purpose of human sciences is to understand, not to explain/predict.

**Discussion:** Activity 9.24, p. 280

**See also:**

**Linking questions:** p. 282

**Reading resources:**

(Teachers may wish to set their own assignments on these.)

- Soft sciences are often harder than hard sciences  p. 283
- Is economics a science? p. 286