CHAPTER 3

Is depression universal?

Charles Darwin, who was himself prone to depression, published *The Expression of the Emotions in Animals and Man* in 1872, 13 years after *Origin of Species*.[1,2] This was the first large-scale attempt by a scientist to demonstrate that certain universals might exist in human emotional expression. Darwin wanted to support his theory of evolution – that we had all evolved from a common progenitor – by showing not only that certain emotional expressions were universal, and therefore had a common genetic blueprint, but also that there was some continuity between humans and other mammals in the way that we expressed moods. Some photographs of his observed expressions are shown in Figure 3.1.

Darwin interviewed people who had lived or travelled in foreign lands. He pointed to similarities in emotional expression across different cultures. He also recounted striking and poignant descriptions of grief or sadness in other mammals. On Indian elephants, captured in Ceylon (now Malaysia), he quoted an observer: '[the elephants] lay motionless on the ground, with no other indication of suffering than the tears which suffused their eyes and flowed incessantly'.[1]

Darwin's volume persuasively suggested that the influence of natural selection is not limited to mere physical characteristics but shapes our emotions. However, ever since its publication violent battles have been waged over the interpretation of its findings. Among the main players in this drama during the twentieth century have been the famous anthropologist Margaret Mead and, later, the experimental psychologist Paul Ekman.

Margaret Mead conducted detailed observations of many relatively isolated cultures. Her descriptions demonstrated that there were huge variations in behaviour – how people lived, hunted, fed, worked, formed intimate partnerships and raised their children – across the different cultures. In 1935 Margaret Mead published an academic work called *Sex and Temperament in Three Societies*, in which she

Figure 3.1 A picture taken from Darwin's book *The Expression of the Emotions in Animals and Man and Animals* demonstrating sadness

concluded that 'human nature is almost unbelievably malleable, responding accurately and contrastingly to contrasting cultural conditions.'[3] This 'cultural relativism' was, at the time, a welcome backlash against racism and eugenics, and it arose in the climate of radical behaviourism, which suggested that we are all entirely products of learning and experience.

This arguably optimistic stance suggested that individual differences could be wiped out if we were all raised in the same environment and with limitless opportunities for self-improvement. It further suggested that there were no genetic limits to our achievements. With regard to our emotional worlds, emotional displays were determined entirely by learnt rules of communication within a culture. There was no contribution from biology. It followed that some expressions, like a frown, could represent happiness in one culture, and displeasure in another; and that some facial expressions could be found in one culture and not in another. The cultural relativists would have strongly resisted any suggestion that the same symptoms of depression could be detected in every culture of the world. This would have implied a

universal genetic liability, and even continuity with the animal kingdom.

Unfortunately for Margaret Mead, at the time that she was writing other researchers, most notably the developmental psychologist Florence Goodenough, were coming up with sound evidence to support Darwin's belief in emotional universality. More importantly, they provided direct support for the idea that emotional expressions were innate, not learned. They observed the emotional reactions of children who had not had the opportunity to imitate the emotional expressions of others. In 1932 Goodenough published her observations of a ten-year-old girl who had been blind and deaf from birth.[4] According to Goodenough, this young girl showed surprise when something unexpected happened, displayed sadness when a favourite toy was taken from her, and laughed and smiled when fun or pleasant objects were given to her. (In fact, prior to Goodenough's seminal paper, Darwin had observed that blind children seemed to 'blush with shame' and show other expressions in a manner similar to sighted children.[1]) Goodenough concluded that children who are born deaf and blind use the same facial expressions as other children to express the same emotions.

Goodenough blazed a trail for other researchers like Jane Thompson and Irenäus Eibl-Eibesfeldt, a German ethologist. Thompson took photographs of the emotional reactions of 26 blind children, aged from seven weeks to thirteen years, to certain situations, and had independent raters compare these reactions to those of sighted children, matched for age in similar emotion-provoking situations.[5] In the 1960s Eibl-Eibesfeldt went further and explored the role of IQ in a small number of children affected by thalidomide.[6] (Thalidomide was a drug, launched in the 1960s, which was found to cause major congenital defects to the unborn babies of pregnant women who took the drug, including eye, ear and brain defects.) The children in Eibl-Eibesfeldt's study were all deaf and blind from birth and had varying amounts of brain damage. They also had limb malformations. He videotaped the young children and then slowly played the tapes back. He observed a wide spectrum of spontaneous emotional expressions in each child, including smiling, crying, surprise, and frowning, which were similar to expressions shown by sighted children. This was true even of one child with an IQ within the severely disabled range. Other researchers produced similar results.[7,8]

Of course, all these studies had some weaknesses of method, but

taken together they seem to imply that no social learning of emotional expression is required. This seems to be in direct contradiction to the findings of Margaret Mead, who had carefully observed differences in emotion expression across cultures.[3] Both theories could not be right as absolutes.

However, the most useful theory of human emotional expression came along later, in the 1970s. This theory, developed by the eminent experimental psychologist Paul Ekman, inhabited the middle ground.[9] Ekman used culture-sensitive observation techniques to demonstrate that the basic expressions of sadness, fear, disgust, anger and surprise could be found in many different cultures of the world, if one only took care to separate the *innate* behaviour from the *learned*. In other words, he showed that all cultures had the fundamental capacity to instinctively express these emotions in the same way, but that certain culture-specific display rules affected *when* they would be expressed.

For example, in the 1970s Ekman challenged the prevailing view that the Japanese did not express emotions in the same way as Americans. He did this by asking both Japanese and American people to watch an emotive film on two occasions – once in the presence of a 'scientist', dressed in a white coat, and once on their own. On both occasions their external expressions were recorded with a hidden camera. During the viewings with the 'scientist' present the Japanese did not express emotion as much as the Americans. However, when both Japanese and American people viewed the same film *on their own* they reacted in *very similar ways*. The suppression of emotional expression witnessed in the Japanese when the 'scientist' was present reflected a learned response to the presence of authority figures, defined by the Japanese culture. Without knowledge of this Japanese display rule one might have concluded, on the basis of crude observation, that the Japanese did not have the same innate range of emotional expressions as the Americans. This would have been a mistake.

These issues demonstrate the difficulties that can be anticipated in trying to detect a common collection of depressive symptoms in many different cultures. We are not merely considering the outward expressions of sadness, or lack of animation, we must also gain access to the inner thoughts and feelings, the communication of which is surely even more amenable to cultural variation. The cultural relativists, like Margaret Mead, would argue that it is impossible to find core features

of depression that are present in all cultures of the world because there are more differences in the way that people express mental distress between cultures than there are similarities.[3] They would suggest that the presentation of mental distress in each culture is unique. It would be meaningless to look for universal features of depression across cultures if a person's psychiatric symptoms were entirely determined by the relationship he had with his society.

Differences exist, for example, in the physical location of sadness in different cultures – some feel sadness in the heart (the western concept), others in the stomach (like the Japanese). If Europe, which is the parent of modern psychiatry, devises a test for depression, it will use for its template the symptoms suffered by depressed people in Europe. Exaggerated guilt, which is unreasonable in context, is a common feature of depression in European and American cultures. However, it may be a rare feature of depression in India. Guilt may be particularly western. Many reasons for this have been postulated, including the contribution of the work ethic, and, in the older generation, the need to ration one's desires during the two World Wars. There may have been religious contributions too – from Lutheran Protestant and Catholic confessional traditions.

It is possible, however, that while some symptoms may be culture-bound, and so will be missed entirely in some cultures, other core symptoms may be universal. The development of the WHO's Standardised Assessment of Depressive Disorders (SADD) was the first large-scale attempt at producing a culturally unbiased interview for the diagnosis of depression.[10] It was used in the psychiatric populations of Basle, Montreal, Nagasaki, Teheran and Tokyo and was conducted by people from the host culture. Evidence could be gleaned from the local psychiatrist who had been treating the patient.

It was discovered that there were certain core symptoms of depression that were present in all cultures, and in at least 79 per cent of the total sample of patients. These symptoms included sadness, joylessness, hopelessness, anxiety, tension, lack of energy loss of interest, poor concentration, and feelings of insufficiency, inadequacy and worthlessness. The WHO study confirmed that excessive, often delusional, feelings of guilt or impoverishment and low self-esteem were particularly western expressions of depression. Delusions of guilt were completely absent in Teheran, and delusions of impoverishment absent in Tokyo.

Therefore, there were certain *core* symptoms of depression, sufficient for making a reliable diagnosis, present in all cultures studied. In

addition, there were culturally specific symptoms, but these were less important than the universal ones.

The WHO study could be criticised for focusing on urban populations only. Its conclusions would not necessarily apply to a traditional African agricultural village. However, other studies have added to our knowledge of universal symptoms. Patients defined as depressed by local psychiatrists in Ghana had the same pattern of core symptoms, in roughly the same proportion (76 per cent or more of patients).[11] In China, a western psychiatrist called Kleinman found that the main core symptoms of depression were present in 87 per cent of patients presenting to Chinese psychiatrists with neurasthenia (or nervous exhaustion).[12] The label was different but the phenomenon was just the same, and many improved when given antidepressants.

The WHO study could also be criticised for using preconceived notions of how symptoms might aggregate together to form the depressive syndrome. An anthropologist called Morton Beiser and his colleagues attempted to show how similar psychological symptoms might occur frequently together in different cultures *without using any preconceived European notion of the nature of depressive symptoms.*[13] The aim was to see which generic symptoms of psychological distress tended to group together most often in different parts of the world. It was only later that these groupings were compared with our western concepts of diagnostic syndromes, including depression.

Beiser *et al*. studied the Serer, a community of settled agriculturalists who have inhabited Senegal for at least the past seven hundred years. They focused on the region of Niakur, where, at the time of the survey in 1970, the 35,000 inhabitants lived one of the most traditional lifestyles in Senegal, or possibly in the whole of West Africa. Four-hundred and forty-six adults, who were indigenously defined as probable psychiatric cases, were interviewed in their local tongue, Serer, about their distress. Over 100 different symptoms were described by this community, and they were compared with symptoms volunteered by communities in the Brooklyn and Queens suburbs of New York, and by a community of refugees from Vietnam, Laos and Cambodia who had resettled in Vancouver, British Columbia, during 1979 and 1980.

The over 100 items were a 'distillation of decades, if not centuries, of clinical lore' about the ways people report distress. All three communities were rated on all the symptoms, although symptoms that recorded a less than 10 per cent positive response across all three

centres were excluded. No predetermined ideas were formed about which of these psychological symptoms might constitute the syndrome of depression. Instead, the researchers determined which symptoms seemed to occur most frequently together in each affected person, using a statistical technique called factor analysis.

The ingenuity of the design enabled the researchers to explore a wide range of psychological and psychosomatic symptoms, including items that had originally been regarded as culture specific.

The factor analysis revealed many clusters of symptoms, and one of these clusters contained the constellation of symptoms that western psychiatry would use to define depression.

In all centres, a significant proportion of all the symptoms reported were psychic descriptions of the depressive experience. The six symptoms presenting in all three cultures were hopelessness, indecisiveness, feelings of futility, hypersensitivity to the feelings of others, and anergia (lack of energy). Another group, called 'somatisation' (that is, describing distress in physical terms), could be separated out from these symptoms. The 'somatisation factor' included complaints about shortness of breath, palpitations, dizziness and persistent poor health. The 'depression dimension' was independent of scores on the somatisation dimension.

This latter finding was thought to be important because it challenged the prevailing view that non-western communities were unable to express depression in psychic terms, tending to perceive their distress in physical terms.

The WHO and Beiser *et al*. surveys challenge the extreme social–anthropological view that mental distress expresses itself in such radically different forms in different cultures as to make meaningless transcultural comparisons of the prevalence of a concept such as depression.[10,13] If depression has many core features that are evident across different continents it becomes meaningful to compare the prevalence of depression across cultures.

We know that major depression is common in the western world. However, for many decades, psychiatrists from the white western Christian culture such as Frederick Kraupl-Taylor, a professor of psychiatry during the first half of the twentieth century, have believed that the prevalence of depression in the 'undeveloped' cultures of Asia, Africa and South America is much lower than the western prevalence.[14] Some have even concluded that depression is non-existent in the traditional, 'undeveloped' communities.

These early researchers have mostly attributed this discrepancy to 'cultural differences'. Some, like Kraupl-Taylor, blamed the discrepancy on the less developed use of language in pre-literate societies. However, the most predominant explanation was that there were fewer stresses in the seemingly less complicated lives of the tribes of, say, traditional Africa, or Papua New Guinea. Carrothers, in his 1953 monograph *The African Mind in Health and Disease*, concluded that Africans did not suffer depression because of the 'lack of responsibility' they enjoyed within a 'primitive paradise'.[15]

This 'happy savage' idea persists to this day, despite the fact that people all over the world have had to deal with personal and interpersonal difficulties and tragedies – death of loved ones, separation from loved ones, status battles, childcare, ill-health and old age. As social animals we all have the potential to hurt each other, psychologically and emotionally, wherever we live, and extraneous stressors, acts of God and so on, can never be ruled out. In the modern world these stressors might be redundancy and crime; our ancestors would have had to endure famine and drought.

Some psychiatrists have suggested that the minds of the members of traditional communities are more primitive, and that this makes them less susceptible to depression. Kraepelin visited Java at the beginning of the twentieth century and concluded that depression was seldom experienced there.[16] He believed that the Indonesians were incapable of experiencing such a condition because they lacked the mental capacity to experience it. The underlying assumption was that their brains were less developed than the modern European brain – and consequently they had not evolved the capacity to experience depressed mood to the same degree. Forty years later, when biological explanations for mental illness and physical treatments such as lobotomy (making lesions in the frontal lobes of the brain) were all the rage, some psychiatrists even ventured to suggest that the African tribesman had an emotional life akin to the lobotomised European patient.

Early observations by European researchers in Africa and India often supported such beliefs by reporting low hospital admission rates for depression compared to Europe. For example Shaw, in his book entitled *Clinical Handbook of Mental Diseases* (published in 1925), reported that Indians in the Berhampore asylum suffered less frequently from depression than in-patients in European asylums.[17]

However, there were many reasons for these comparatively low

estimates that had nothing to do with the true prevalence in the communities observed. First, little consideration was given to the possibility that many people with depression were not being admitted to hospital. This was indeed the case in many instances due to the very real barriers to hospital admission. Hospitals were often geographically remote, there was frequently a shortage of beds and there were limited primary care facilities for referral of patients to hospital.

Second, few depressed people attended local doctors, preferring instead to visit religious healers. Spiritual explanations for depression are common around the world. Such explanations can prevent people with the illness from coming forward for treatment. In India, the suffering that occurs during a depressive illness is often thought to be a punishment for sins in a past life. The self-prescribed treatment is to cry silently, work hard and pray. People living in India are willing to go to their doctor with physical complaints, but prefer to visit a spiritual healer for help with the mental distress caused by depression. Sudhir Kakar, a psychoanalyst working in India, conducted an anthropological study of the various ways in which mental health problems are treated there.[18] He identified three main kinds of care – the exorcism tradition, the Ayurvedic tradition and the Guru tradition. In the exorcism tradition there is a hierarchy of treatment: from the healer in the village up to the priest in the temple. The more intractable problems are treated in the temple. In the Ayurvedic tradition, treatments include herbs with tranquillising properties or shock treatment – using irritants placed up the nose, for example. The Guru tradition was the mainstay of treatment for depression.

So, in order to obtain an estimate of the true prevalence of depression in different countries, attempts have been made to conduct community surveys. Surveys can be fraught with difficulties.

One major difficulty is observer bias. Some early researchers, who, due to various preconceived notions (perhaps with their roots in the happy savage idea), were expecting low rates of depression, were not exactly painstaking in their attempts to detect the condition. Similar mistakes continue to be made in assessing contemporary immigrant communities in the western world. While I was a non-tenured researcher for BBC Radio Science in 2001 I interviewed Professor Sashi Sashidharan, a senior psychiatrist who helped the UK Government to assess the state of mental health services for black and minority people. In his view, many white, British psychiatrists had long assumed that south Asian people living in the UK had low rates of depression

compared to the general population. However, he had reviewed the recent research evidence, which was to the contrary.[19] He argued that the assumption that rates of prevalence of depression in these communities were relatively low was based on a cultural stereotype – a belief that south Asian people enjoy greater availability of support from extended family networks. However, much of what a white, middle-class, western psychiatrist knows about ethnic minority groups is derived from racial mythology, stereotyped images from the media, and images of these groups' countries of origin.[20]

In reality, traditional south Asian support networks can be a hindrance rather than a help, particularly if you are female and caught between cultures. In any case, many of the traditional support systems are breaking down. During a visit to a specialist Asian mental health service in Coventry, I met an elderly woman with depression. She told me that the obligation on the young to help the old is increasingly not being fulfilled in the UK as the young become more independent. The staff told me that this was indeed a trend that seemed to be increasing the rate of depression in the elderly Indian population.[21]

Observer bias is not only influenced by an expectation of low prevalence, however. Studies have been carried out that demonstrate that the person who asks questions about symptoms plays a significant role in what is reported. This is common sense. If a physician or psychiatrist in a non-western culture does not systematically ask about psychic symptoms of depression they will be missed, and the rate of depression will appear artificially low. The erroneous conclusion will be made that Africans and the Chinese, for example, present with only somatic symptoms when they are depressed (disproved by Beiser, among others).[13]

A research study carried out in Italy and Sweden in 1981 demonstrated how medical interviews are biased to reflect the prevailing attitudes of the profession and the society at large.[22] At that time, depressed Italians were thought to present with more hypochondriacal symptoms (focusing on physical complaints), whereas Swedish depressed patients were thought typically to present with restlessness and an inability to feel. In the two centres of Naples and Umea, the researchers compared the results of ratings of mental symptoms in depressed psychiatric inpatients *completed by physicians* with those made *by the patients themselves*, on a self-report questionnaire. The doctors' ratings were in line with each society's

expectations. However, Swedish *self*-ratings actually yielded higher ratings of disturbance in bodily function than the Italians' ratings. Also, the Italians expressed more feelings of hopelessness and lack of interest than the Swedes, contradicting the idea that the Swedes were more in touch with their feelings and were less likely to somatise.

The culturally defined relationship between doctor and patient, and locally defined ideas of what is considered to be acceptable illness behaviour, will determine whether depression is detected and treated or not. Thus, it is far more acceptable for a patient to consult a doctor with feelings of despair and low self-esteem in the US than it would be in China or Japan, where the expression of emotion in front of an authority figure is taboo. Kleinman revealed a high proportion of depression in patients attending a Chinese clinic for the treatment of nervous exhaustion.[23] Physical symptoms had been used to negotiate care – and this was not necessarily different from the treatment for what westerners would call depression.

Complaints about *feeling* depressed do not regularly enter into physician–patient consultations in Africa, either. Again, different ideas prevail about what is legitimate to bring into a treatment encounter. In China and Africa mental distress can occasionally be discussed with family or close friends, healers, or fortune tellers, but is not considered appropriate subject matter for the medical consultation. By contrast, the majority culture in North America regards the disclosure of psychic distress within the patient–physician encounter as more acceptable.

Thus, results from community surveys vary widely. A survey in Bengal, eastern India, estimated the point prevalence to be 4.7 per cent, a figure not too different from estimates of prevalence in the west.[24] However, rates in North and South India have been reported to be 8.9 per cent and 3.3 per cent respectively.[25] Some field studies in West Bengal have recorded a prevalence of depression as high as 77.2 per cent in one village.[26] This figure seems improbably high.

WHO figures suggest that nearly four million elderly persons are mentally ill, and two-thirds of this morbidity is accounted for by mood disorders, predominantly depression.[27] According to one estimate, the prevalence of depression in the elderly of India at any one time is between 13 per cent and 22 per cent.[28] The main risk factors for depression in India are similar to those in the west; loss of fortune, fall in self-esteem, sense of helplessness, poor education, substandard physical health, social and sex discrimination, financial debt and status as a widowed person. Most of the depression goes undetected and/or

untreated, as with the south Asian immigrant communities in the UK. Depression, therefore, is said to make a significant contribution to the overall burden of disability in the Indian subcontinent.[29]

Similar findings are emerging in other continents. Following improvements in survey techniques, Africans are now thought to have a prevalence of depression that is comparable to the rate observed in the UK.[30]

Depression was once considered uncommon in Arab countries. However an incidence of 24.5 per cent was reported in hospital outpatients in Egypt.[31] Depression most commonly presented in middle-aged housewives. A researcher called Pfeiffer, who originally reported a low figure for depression in Indonesia in the 1960s, later revised his position, and concluded that the WHO definition of depression occurs in significant numbers of Indonesians. [32,33]

In his review, Wolpert concludes that the rates for depression in the Far East are consistently less than 50 per cent of those in the west.[34] It is not clear why this should be so, but the perceived need of depressed people to negotiate care on the grounds of physical illness may be responsible for cases being missed.

The question of whether similar drug treatments are effective in alleviating depression in both the developed and developing worlds has been explored by Dr Venkoba Rao, an expert on transcultural psychiatry who is based in India.[35] It seems that similar drug treatments are equally effective in the UK and in India. There are similar rates of chronic, unresolved depression (i.e. treatment failures) and recurring depression. This supports the idea of a common biological mechanism for the condition around the globe.

The International Consortium of Psychiatric Epidemiology (ICPE) was established in 1998 by the WHO in an attempt to overcome limitations in cross-national survey techniques. The Composite International Diagnostic Interview (CIDI) was thought to be a valid and reliable measure – meaning that it detected what it was supposed to detect (depression) and that it would give the same result when used a number of times with the same depressed person by different interviewers.[36] It was like the SADD but it was designed to be used with patients in the community. At the turn of the new millennium a WHO Bulletin published the results of international comparisons using the CIDI.

In total 30,000 people were surveyed. All interviews were carried out face to face, not by telephone or by post. The results for mood

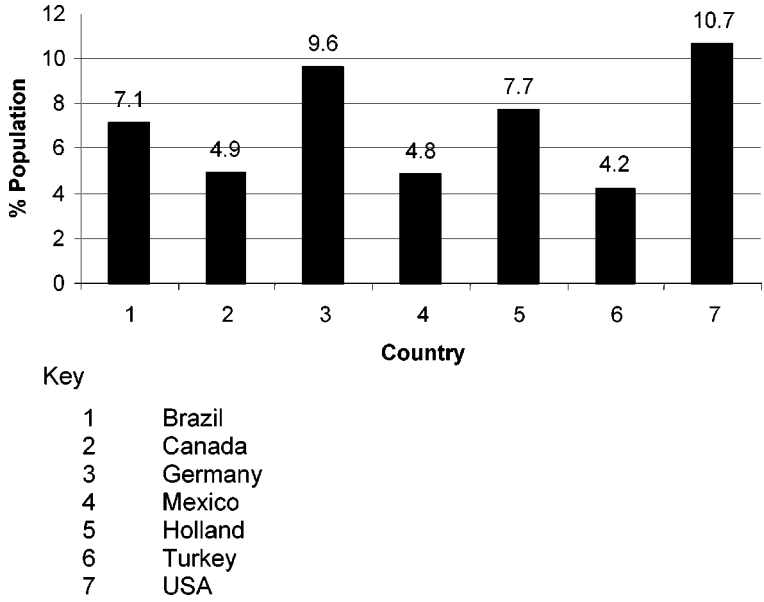

Figure 3.2 Cases of depression over previous 12 months

disorders are shown in Figure 3.2. Mood disorders included depression, dysthymia (depressive personality) and/or mania, but major depression accounted for the greatest proportion of cases.

It is difficult to make meaningful comparisons from these figures alone because depression was not the only condition studied and the samples of the populations may not have accurately represented all people in every country. What we can conclude, however, is that the figures reveal a significant amount of depression in each country studied.

Overall, the weight of evidence from modern prevalence studies seems to show that the happy savage idea is untenable. The idea that traditional communities are immune from depression because, for example, they have less responsibility, they give greater expression to sadness and grieving, they have not developed the capacity for sadness, they are less psychologically minded, or they do not experience the same kind of stress, cannot be substantiated by the evidence collected so far. Depression, when carefully defined and carefully observed, appears to be a universal phenomenon.

The universality of grief – and its relationship to depression

Mourning rituals are observed in all the cultures of the globe. Most mourning rituals facilitate an effective channelling of grief into a socially acceptable pattern of behaviour that does not disrupt the group as a whole. Full cathartic expression is allowed within a carefully designed ritual, and within a defined context. Grief, therefore, is a common and universal human characteristic.[37]

It is worth pointing out that, from a psychiatrist's point of view, there appears to be a marked overlap between the syndromes of depression and grief. This overlap exists not only in terms of triggers, but also in terms of subjective experience, and duration of illness.

Depression is, after all, often diagnosed following bereavement. Conversely, grief reactions are increasingly diagnosed following other losses. With regard to symptoms, both grief and depression can present with poor sleep, poor appetite, lack of motivation, a lack of energy and reduced pleasure in sex and other activities. The symptoms endured during acute grief can be just as severe as those experienced during a depression. There seems to be just as much variation in the way grief presents itself as in the way depression presents itself. It can be argued that if depression were fundamentally a different phenomenon from grief, then our experiences of both would not be so similar. With regard to duration, depression is traditionally thought to last longer than grief. However, people with persistent depressive symptoms following bereavement often acquire a diagnosis of 'pathological grief', rather than depressive illness. Furthermore, depression does not need to be prolonged to be diagnosed.

Such diagnostic confusion might invite us to consider the possibility that we prefer to adopt the grief label in cases of depression following a loss because of social stigma. The term 'grief' is, after all, much more socially acceptable than the term 'depression'. If we had a generic term for all grief and all depression, if we considered both conditions together, we might then be more willing to accept that depression is a ubiquitous feature of human experience. Separation of the two conditions seems to be arbitrary. There is, at the very least, an overlap.

The universal nature of depression suggests that it is not an entirely culturally derived phenomenon. Culture will inevitably have some influence on the number of new cases of depression in a

society, and on how long people remain depressed (which affects its prevalence at any one time), but it seems unlikely that the high rate of depression seen across different cultures around the world can be explained entirely in terms of a mismatch between culture and inherited brain biology. If this were the case, the prevalence of depression in more traditional cultures, where the mismatch is minimal, would be closer to zero. The idea that our propensity to depression is an evolved biological tendency in its own right is starting to look more viable. If we could demonstrate some continuity with other animals with regard to depressive behaviour then this would strengthen such a position even further. Darwin suggested that we share the tears of sorrow with other mammals.[1] Could it be that we have also inherited the capacity for depression from animals further down the evolutionary tree?

References

1 Darwin C. *The expression of the emotions in animals and man*. 3rd ed. London: Harper Collins; 1999.

2 Darwin C. *The origin of species*. New York: Gramercy Books; 1998.

3 Mead M. *Sex and temperament in three societies*. London: Harper Collins; 2001.

4 Goodenough FL. Expressions of the emotions in a blind–deaf child. *Journal of Abnormal and Social Psychology*. 1932; **27**: 328–33.

5 Thompson J. Development of facial expression of emotion in blind and seeing children. *Archives of Psychology*. 1941; **37**: No. 264.

6 Eibl-Eibesfeldt I. The expressive behaviour of the deaf-and-blind-born. In: von Cranach M, Vine I editors. *Social communication and movement*. London: Academic Press; 1973, p. 163–194.

7 Fulcher JS. 'Voluntary' facial expressions in blind and seeing children. *Archives of Psychology*. 1942; **38**: No. 272.

8 Freedman DG. Smiling in blind infants and the issue of innate versus acquired. *Journal of Child Psychology and Psychiatry*. 1964; **5**: 171–184.

9 Ekman P. *Darwin and facial expression*. Burlington, USA: Academic Press; 1973.

10 Sartorius N *et al*. *Depressive disorders in different cultures: report on the World Health Organization collaborative study on standardized assessment of depressive disorders*. Geneva: World Health Organization; 1983.

11 Majodina MZ and Johnson AFW. Standardized assessment of depressive disorder in Ghana. *British Journal of Psychiatry*. 1983; **143**: 442–6.

12 Kleinman A and Good B. *Culture and depression : studies in the anthropology and cross-cultural psychiatry of affect and disorder*. Berkeley: University of California Press; 1985.

13 Beiser M, Burr WA, Ravel JL *et al.* Illnesses of the spirit among the Serer of Senegal. *American Journal of Psychiatry*. 1973; **130**: 881–5.

14 Wittkower ED. Perspectives in transcultural psychiatry. *International Journal of Psychiatry*.1969; **8**: 811–24.

15 Carrothers JC. A study of mental derangement in Africans and an attempt to explain its peculiarities more especially in relation to the African attitude to life. *Journal of Mental Science*. 1947; **83**: 548–97.

16 Kraepelin E. Psychiatrisches aus Java. *Cbl Nervenheilk Psychiatrie*. 1904; **27**: 468–9.

17 Shaw WS. *Clinical Handbook of Mental Diseases*. Calcutta: Butterworth and Co.; 1925.

18 Kakar SJ. Psychoanalysis and Eastern spiritual healing traditions. *Analytische Psychologie*. 2003; **48**: 659–78.

19 Commander MJ, Cochrane R, Sashidharan SP *et al*. Mental health care for Asian, black and white patients with non-affective psychoses: pathways to the psychiatric hospital, in-patient and after-care. *Social Psychiatry and Psychiatric Epidemiology*. 1999; **34**: 484–91.

20 Sashidharan SP and Francis E. Racism in psychiatry necessitates reappraisal of general procedures and Eurocentric theories. *British Medical Journal*. 1999; **319**: 254.

21 Reid-Galloway C. *The mental health of the South Asian community in Britain*. Mind Information Unit, Mind Publications; 2000. www.mind.org.uk (accessed 17 July 2006).

22 Perris C, Eisemann M, Eriksson U *et al*. Transcultural aspects of depressive symptomatology. *Psychiatrica Clinica*. 1981; **14**: 69–80.

23 Kleinman A. *Social origins of distress and disease: depression, neurasthenia, and pain in modern China*. New Haven: Yale University Press; 1986.

24 Carstairs GM and Kapur RL. *The great universe of Kota: stress changes and mental disorders in an Indian village*. London: Hogarth Press; 1976.

25 Sethi BB, Nathawat SS and Gupta SC. Depression in India. *Journal of Social Psychology*. 1973; **91**: 3.

26 Nandi DN, Banerjee G, Nandi S *et al*. Is hysteria on the wane? A community survey in West Bengal, India. *British Journal of Psychiatry*. 1992; **160**: 87–91.

27 WHO Consortium in Psychiatric Epidemiology. Cross-national comparisons of the prevalences and correlates of mental disorders. *Bulletin of the World Health Organization*. 2000; **78**: 413–26.

28 Joshi PC and Sengupta SN. Health Issues. In: *Seminar 488: Ageing; a symposium on the greying of our society*. Seminar (on line). 2000.

29 Rao AV. Mental health and ageing in India. *Indian Journal of Psychiatry*. 1981; **23**: 11–20.

30 German GA. Mental health in Africa: I. The extent of mental health problems in Africa today. An update of epidemiological knowledge. *British Journal of Psychiatry*. 1987; **151**: 435–9.

31 Okasha A. Psychiatric symptomatology in Egypt. *Mental Health and Society*. 1977; **4**: 121–5.

32 Pfeiffer WM. States of torpor and trance in Indonesian tribes. *Nervenarzt*. 1966; **37**: 7–18.

33 Pfeiffer WM. Cross-cultural psychiatry. *Deutsch Krankenpflegez*. 1975; **28**: 547–50.

34 Wolpert L. *Malignant sadness. The anatomy of depression.* London: Faber and Faber; 2001.

35 Rao AV. Psychiatry for the developing world. In: Tantum D, Duncan A. Appleby L, editors. London: Gaskell, p. 187–221.

36 Andrews G and Peters L. The psychometric properties of the Composite International Diagnostic Interview. *Social Psychiatry and Psychiatric Epidemiology*. 1998; **33**: 80–8.

37 Triandis HC and Draguns JG, editors. *Handbook of cross-cultural psychology. Vol. 6*. London: Allyn and Bacon; 2005.