What is a Blush?

The nature of the blush

Darwin was aware that the redness of the face, ears, neck and upper chest – the ‘blush region’ – is due to increased blood flow in that region brought about by vasodilation of the capillaries lying just under the skin. The mechanism responsible for this reddening was not understood at the time and while we now know a great deal more about the cardiovascular system and have learnt a little more about the physiology of the blush, the process remains mysterious. The blush is rarely discussed in textbooks of the cardiovascular system and if it is mentioned, it is typically to acknowledge how little it is understood. This chapter locates the blush within the context of what is known about the system and considers explanations that have been proposed. The final section examines measurement issues.

Several questions suggest themselves at the outset. First, is the change in colour and skin temperature that occurs in blushing distinct from other instances of reddening or flushing? Faces redden when we are hot, take exercise or imbibe alcohol; or when we are angry and indignant as well as when we are embarrassed. Flushing, associated with rapid temperature rise, palpitations and perspiration, can occur around the time of the menopause, be persistent and cause distress.1 Do we label redness of the face a ‘blush’ only because of the circumstances in which it occurs or is there a distinctive physiological pattern? If, say, Anna Kournikova is photographed red-faced when a ‘streaker’ interrupts her tennis match, is it a blush that we see (as the article accompanying the picture claims) or simply the flush of exertion? When a visibly red-faced Prince Harry was involved in an altercation with a photographer outside a London nightclub, attracting, as a youthful member of the British royal family
would do, extensive media coverage, he was variously described as red-faced and flushed, never as blushing.² Do we rely on the context to decide that a red face is a blush?

Is there more than one kind of blush? Leary et al. (1992) distinguish between the classic blush (as we have been considering so far) and the creeping blush. The latter spreads slowly over a period of several minutes, and is ‘blotchy’ in appearance and can spread to the neck and upper chest. It tends to be seen when someone is performing in front of others over an extended period of time. I have observed it in a university setting when a student is a candidate in an interview or a viva voce examination, or when a lecturer or student is making a presentation to a group. Its onset does not seem to coincide with either the anticipation of the performance or its beginning – the latency can be of several minutes – and it persists for a long time, although the colouring fades soon after the person leaves the situation. Although this type of blush typically appears when the individual is aware of being the object of sustained attention, as in these examples, it does not seem to require a specific precipitating incident, such as making a faux pas, which characteristically triggers the ‘classic’ type.

The classic blush can also persist, particularly if the person continues to ruminate on the circumstances, as this quotation from a participant in my research indicates. She started to blush while she was giving a speech to her classmates:

I began fairly confidently, but gradually I became more aware of the silence except for my voice, and the fact that everyone was watching and listening to me. I felt nervous and started to shake while hurrying my speech. This caused me to blush. For ages afterwards (while the others were doing their speeches) I was still shaking and felt very hot. I could not concentrate on what they were saying as I was too concerned with thinking about my speech and how annoyed I was for getting so nervous. My red face did not disappear instantly – the moment the attention was no longer on me – because my thinking about it caused me to blush still.

Nevertheless, the similarities and differences between the two types, if indeed there are two, are not yet understood, nor do we have available accounts of any differences in mechanism. Campbell (1890) made careful observations of the spread of a blush and concluded that there are diverse ways in which redness is distributed. In some instances it starts with a dot of redness on the cheek which becomes triangular in form;