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Introduction

Only from the heart can you touch the sky.

Mawlana Jalal-al-Din Rumi

Aims

We readily accept that it is our emotional connections to the people whom we love and care about that make us human. We sacrifice for our loved ones, feel joy and pain in equal measure with our friends, and even reach out to connect to the lives and wellbeing of people we have never met. However, we rarely think about where these feelings come from. Our stories of human evolutionary success are so focused on intelligence, individual resilience or strategic collaboration that you might even imagine that our ancestors had no significant emotional connections at all.

The aim of this volume is an ambitious one. We hope to begin to better understand the distant evolutionary origins of our peculiarly human social feelings and how they drive our emotional connections to those around us. We hope to untangle why we respond so readily to others in need, why kindness is so important, and why our rather peculiar emotional vulnerabilities and sensitivities emerged. In doing so, we also hope to better understand our own feelings and uncover why the evolutionary background to our human emotional connections is important today.

We will, of course, build on existing research. Most obviously, we will build on decades of research into understanding why human minds are unique.

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These include approaches to the evolution of human intelligence in general, and to specific types of 'intelligence' (Overmann and Coolidge 2019; Overmann and Wynn 2019; Wynn and Coolidge 2016), including social intelligence (Dunbar 2003; Dunbar 2018). We will consider what we can learn from the emotional motivations of minds very different from our own, such as those of *our nearest living relatives*, chimpanzees, and those of *our closest friends*, dogs and their wolf ancestors. We will also build on a history of research into our emotions that began as far back as Darwin himself (Darwin 1872).

We will also expand existing research. Within archaeology, for example, aside from debates over evolutionary changes in emotional attitudes to death (Pettitt 2010; Pettitt 2018; Pettitt and Anderson 2019) or to child-care (Hrdy and Burkart 2020; Langley 2020), there has been only a limited body of research into how the archaeological record provides insight into the evolution of our modern social emotions or our close human emotional connections to others. Palaeolithic archaeology, in general, has tended to shy away from emotions, with discussions of how our minds evolved tending to focus on subjects such as thinking skills, the basis for art, or the origins of language (Coward 2016; Stade and Gamble 2019), or been limited to a cultural rather than evolutionary viewpoint (Lyons and Supernant 2020; Tarlow 2012). Evolutionary archaeology of those most human emotional capacities that affect our social lives is relatively novel. Furthermore, we hope to develop a wider interdisciplinary perspective on human origins, drawing on material evidence for real people and behaviours in the distant past.

We will bring something new. We are already aware that our human capacity for social collaboration was important in our distant evolutionary past. However, there is much more to discover about why our human emotional connections are such an important part of our evolutionary story. We need to delve into the specifics of archaeological and fossil evidence, as well as evolutionary understanding, to uncover what happened in our distant origins to make us capable of the emotional connections that bind us together today. Over the 7 to 8 million years of an evolutionary past that separates us from other apes, there have been many different ecological changes, selective pressures, evolutionary branches and offshoots, and many different

societies and cultures with different types of social lives. It may be too much to expect to fully understand all we might wish to about the prehistoric past of our social emotions. However, we can at least hope to cast a far greater insight into the peoples and societies in the distant past that helps to explain why we feel the way that we do and, perhaps beyond this, we can hope to gain a fuller appreciation of why our emotions and emotional vulnerabilities are significant for the future.

We will also attempt to move away from traditional approaches to human evolutionary narratives (see Athreya et al. 2019; Porr and Matthews 2019). Specifically, we here move away from an idea of a ladder of progress (Athreya et al. 2019) and from the notion of humans as exceptional (Anderson 2019). We also seek to move beyond ideas of different variations of human as superior or inferior to each other, and from a focus on intelligence as some prime mover or defining feature of humanity (Anderson 2019). In doing so, we hope to piece together a new narrative of our origins that plays a more positive role in our modern worlds.

There are many avenues that have not been followed. There are voices, including those of indigenous populations, that have yet to be heard in our narratives of human origins (see Sterling 2015). Moreover, through the unfortunate ease of access to archaeological material and interpretations, we continue to rely most heavily on European material in discussions of the most recent periods of human evolution. There are new narratives around gender or sexuality in the past that remain to yet be told. Where we hope to progress in particular, however, is around a greater emphasis on narratives of physical and cognitive diversity, and in tackling the issue of different but equally valid ways of being human in both the past and the present (Wright, Spikins, and Pearson 2020).

Further, here we move away from concepts of a linear evolutionary progression to a more superior human form and, instead, move towards interpretations of evolutionary history in which there is no necessary single shared direction of movement, and in which a model of different evolutionary pathways connects more clearly with adaptations occurring in other social animals. This is a narrative in which the significance of our shared biology and how it connects us to nature is more clearly emphasised.

Challenges

Our emotional connections to people, and even other animals or things around us, are a challenge to research and understand, even more so in the distant past. They are, after all, some of the most inspiring, troubling and problematic elements of our uniquely human experience. The effects of our emotional connections are often intangible. Yet, we are so sensitive to how others feel that simply being with people who care about us makes us feel relaxed, safe and happy (Armstrong et al. 2021; Marsh 2019), and their care makes us healthier and more resilient to stress (Gilbert 2021). The feelings of those around us affect us so profoundly that emotions and motivations can cascade across our social networks (Fowler and Christakis 2010). Moreover, we are even affected emotionally by the wider economic and cultural systems in which we live (Becker, Hartwich, and Haslam 2021). As such, just as our emotional connections can elevate us, they can also bring us down or debilitate us. Whilst most of us discover our greatest joy and happiness in our relationships with others, our human emotional connections also mean that we can be disabled by grief and find it almost impossible to live without loved ones. We all too often find ourselves uniquely connected to another's suffering, crushed both emotionally and physically by cruelty or the wrong type of social connection, or debilitated by isolation or loneliness (Bzdok and Dunbar 2020; Gilbert 2021; Spreng et al. 2020). This emotional sensitivity seems hard to explain within a functional evolutionary framework, and is rarely acknowledged in broader society. Yet, far from a fault, it is also an essential part of human experience. Just living life as a human being, with the breadth of our emotional experience and all our emotional sensitivities and vulnerabilities, prompts us to question why we feel the way that we do, how far back these feelings go, and why they might even have been important for our survival.

We face a number of hurdles in building up a picture of the key developments in the complexity of human emotional connections. Firstly, we need to draw on the often-scanty material record left behind by our many different human relatives, a record that is not without constraints and issues. Secondly, we will need to navigate a challenging area of research lying between commonly accepted disciplines and, lastly and perhaps most importantly, to overcome our own assumptions and biases.

In bringing the material record to bear on the question of how our social emotions evolved, we will be disappointed if we expect some prehistoric Pompeii, or an obvious link between how people behaved and their emotional motivations. The further back we go in time, the less archaeological evidence is preserved, and the more difficult it becomes to interpret. Like fishing in ever deeper waters, further from the surface there is less to find and, what's more, we often come across unusual things that we do not really expect. The archaeological record of the Palaeolithic, for example, only starts with the earliest stone tools around 3.5 million years ago, and most of our archaeological record is made up of these highly durable stone tools, with the fortunate addition of some fossilised animal or, occasionally, human bones. Evidence for things like art or mortuary practices, or even the full range of the types of resources that people were hunting, gathering and eating, are extremely rare, and are often surprising in form. Some of the earliest mortuary practices, for example, seem to involve depositing bodies in particular places, including caves. Quite why remains something of an enigma (Pettitt 2010). We can only look with a certain amount of jealousy at the often-predictable results, large sample sizes and statistical confidence seen in many other areas of science, such as modern psychological studies.

More than this, what we do find may not be easy to interpret. The archaeological record gives us, at best, an indication of how people *behaved* in the past. How they *felt* is something that we have to infer, and rarely is this ever with any confidence when we are dealing with single cases. What people do is influenced by far more than simply their emotional capacities. Rather than expecting to find evidence that tells us with any certainty how any single individual might have felt, we must look instead for changing patterns of behaviours and what that can tell us about how emotional capacities were evolving and emerging, much as we might take the same approach to other areas of cognitive evolution (Wynn and Coolidge 2016). As we shall see in Chapter 2, the archaeological record for recovery from illness and injury, demonstrating probable care from others, is a good example. We cannot possibly be sure that someone was not cared for through some calculating motivations on the part of someone else who might possibly have wanted them to survive some injury for their own selfish reasons. However, when we see a pattern of many cases of care consistently appearing across long periods of time we can begin to reasonably infer the importance of evolved

emotional tendencies to respond to others distress. We have to build an understanding by focusing on the patterns that tell us about how emotional capacities may have changed, and leave what any one person in the past actually felt to speculation. Of course, we cannot help but imagine how any individual might have felt suffering some severe injury and being cared for by those around them in the most difficult of circumstances but, when it comes to making inferences about how emotional capacities evolved, we will be limited to considering the patterns of broad scale change.

There are other, perhaps even more important constraints on what evidence is available, and these, ironically, result from our evolved tendencies themselves. Because we have evolved to pay the greatest attention to the types of things which might present a danger to us – violence or conflict, for example – these elements of our distant past also attract the far greatest attention (Soroka, Fournier, and Nir 2019). Tilley commented, for example, that the main publications about a brain injury in the Saint-Césaire Neanderthal focus almost exclusively on how this injury may have been the product of interpersonal violence, with almost no reference to the weeks or months of survival from injury, which strongly suggests care from others (Tilley 2015). Most of us have an image of Neanderthals as being brutish, competitive and violent, even though, as we shall see in Chapter 8, the evidence for interpersonal violence is quite scanty (with very few relatively clear cases) compared to that for lengthy and extensive interpersonal care (Spikins et al. 2019). All too often, it is those scant examples of violence that attract the most attention, both academic and public. The often-overlooked archaeological evidence for caring, supportive or sensitive behaviours will take a certain amount of *uncovering*.

A natural negativity bias may have made sense in a far-distant evolutionary world, where being particularly alert to the dangers posed by any possible predator or dangerous situation was critical to survival. However, basing our understanding of who we are on our intuition about what the past ought to have been like is a risky business. Because of this bias, the behaviours of the small numbers of others who are callous or cruel most attract our attention and give us the impression of an innate aggressiveness to human nature despite most of us being remarkably altruistic (Marsh 2019). A mythical violent or selfish past can be part of the assumptions we make when we create

societies that bring out our worst selves and do not cater for either the better, more caring and more tolerant part of natures, or our sensitivities.

The archaeological evidence is only half of the story. Without an understanding of the biological basis of how hormones influence our emotional motivations, and the cognitive or social psychology of behaviours set within an evolutionary context, none of what we might find makes sense. We will also have to draw on insights from many different disciplines if we are to understand the process through which our evolved emotional capacities emerged. We need to understand what happens in the mind of an early human as they perceive and respond to others' suffering, how hormones and their evolutionary history influence what we do, what the evidence from fossil hominins means for the nature of changes, and the ways in which ecological circumstances drive species along different evolutionary branches. This type of interdisciplinary research is always challenging. As academics, we tend to be encouraged to stay within our disciplinary boundaries and become ever more specialised in a single area. The patterns and processes occurring in the past, from which our evolved emotional capacities emerged, did not happen in one neatly defined realm, however. From the biology of hormonal responses, to cognition, to ecological changes, social relationships and even cultures, we will have to have some grasp of all of these things to make sense of the evidence.

Perhaps the most significant challenge, however, comes from within – that of overcoming our own assumptions of and preferences for what the trajectory of our evolutionary past should look like. It is all too easy to write a pleasing narrative around the evolutionary past we want to believe in, whilst the actual history behind our emotional capacities may be far more useful to us.

Most obviously, we much prefer a success story. We almost always hear of human origins through a narrative of gradual progression towards a final form, ourselves, who we see as a kind of pinnacle of evolutionary success (Scott 2010). Indeed, the idea that evolution made us perfect, and that as a species we triumphed over adversity to become uniquely successful, is so hard baked into our culture that it can be hard to see past it. Surely, we reason, we *must* be better than any human species that came before us.

Not only in physical form, intelligence and technological capacity but also in emotional capacities. The ultimate success story. More advanced than any other on the planet.

Rather than a simple progression, there is abundant evidence for a much more complex story that speaks to us less of 'success' and more of a sequence of adaptations and changes, some more random than others. Recent years have demonstrated that human evolution is far more complex than we often assume, for example. We now know that there are many more species of human, existing in a complex relationship with each other, rather than any single evolutionary lineage (Galway-Witham, Cole, and Stringer 2019). More than this, evolutionary processes themselves are much more chaotic and undirected than we often assume. Different species simply adapted by responding to constraints and opportunities in ways that brought both advantages and disadvantages, but not intrinsically 'better' or perfect forms. Rather than any step being better, there were always compromises to be made. Human brain expansion facilitated great cognitive advancements, for example, but at the cost of high energy expenditures and risks in childbirth. Bipedalism may have freed up hands and brought certain energetic advantages, but imposed stresses on the spine. The same possibilities, constraints, advantages and disadvantages are true of how social emotions emerge. Shame or guilt may motivate more moral behaviour, for example, but can also come at a price. Shame, in particular, can have lasting negative effects on wellbeing (Longe et al. 2010). Moreover, certain changes or adaptations are often part and parcel of other developments, 'hangers on' in genetic terms, or simply made little difference. A simple story of evolution as a 'better' form winning out over others, or anything being 'perfectly evolved', is more myth than reality. Only by understanding the complexity of branches and compromises can we move away from our perhaps rather colonially inspired narratives of superiority and inferiority, and of anatomically modern humans (henceforth 'modern humans'), our own species, as naturally somehow exceptional. Even using the term 'modern human' for our own species is problematic, as it seems to imply a certain superiority. We may now be the only such surviving species but others to which this term could equally apply were our contemporaries for tens of thousands of years. There is, however, no better option that everyone understands.

The often chaotic and non-directional nature of evolutionary processes is perhaps even more significant to bear in mind when considering our

emotions than any other human capacity. In the field of emotions, chance factors and the vagaries of circumstances play an important role in how capacities evolve and, moreover, compromises are rife. As we shall see, our evolved emotional capacities make us social, in the sense of being highly sensitive to each other's feelings, and highly responsive to culture, but also vulnerable, desperate for recognition, debilitated by grief, and made ill with loneliness. Our acute social sensitivity can be an advantage to collaboration, but also a vulnerability where we grasp at attention or follow a herd going in perhaps the wrong direction.

To find a more nuanced and more interesting explanation for the role our emotional connections played in making us who we are, we may need to let go of the comfort and satisfaction that come with believing we are some kind of pinnacle of a process of increasing perfection. This may not be a neat story. Nonetheless, that our shared human capacities for remarkable generosity, sharing, tolerance and altruism came about through imperfect responses, compromises and changes in direction, may make them even more remarkable.

Structure

We address different types of human emotional connection across the three parts of the volume. In the first two parts, we focus particularly on two suites of emotional capacities: in Part 1, those particularly focused on our emotional connections *within groups*, particularly our generosity and compassion for close kin and group members and increasing importance of trust and social reputation; and, in Part 2, those emotional connections driven through tolerance, sensitivity and connection to *people outside of our local or family circle*. These two distinct areas naturally lead to a focus on two key transitional periods in human origins. The first key transition, explored in Part 1, around the time of the origins of the genus after 2 million years ago, coincides with new types of collaboration based on sharing and caring behaviours within groups. This may be the time period when typically human generosity and compassion emerged, with implications for the significance of trust, and for broader areas of social relationships and cognition. More in-depth emotional connections emerging at this time will have brought with them increased pain at others' suffering, and concern for group wellbeing. The second key transition, explored in Part 2, is that of the emergence of our own species after 300,000 years ago, coinciding with evidence for regional connections

between groups, based on new types of tolerance and the maintenance of friendships across large regions. This may be the time period when typically human needs for connection and belonging emerged, alongside capacities to form large-scale social networks, as well as sensitivities and vulnerabilities to emotional stresses and loneliness. In each of these two parts, we start with the evolutionary basis for key traits, move to archaeological evidence, and then consider the implication for our current interpretations and wider significance. In Part 3, we explore differing branches of emotional dispositions, the emotional lives of our close cousins, the Neanderthals, and how the differences between us may be explained by alternative, though different but equal, evolved emotional trajectories. Lastly, we consider why a reappraisal of the significance of our most human emotional capacities may be important for our understanding of human origins and beyond.

A new narrative may reveal not only the significance of previously disregarded elements of past human lives, but also new perspectives on ourselves.

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