

The evolutionary origin of selfhood in normative emotions

1. Introduction: The Problem of Normativity

Normativity is a fundamental feature of selfhood.¹ In the Modern, Enlightenment tradition, being a self is having the capacity to be autonomous, that is, to be responsible for one's own actions and beliefs. To be a self, an organism must be capable of freely following cognitive, behavioural and linguistic norms. It must be able to justify its positions by giving reasons to others -- and to itself. These capacities are contrasted not only with mechanical causation in the physical world, but with the heteronomous status of slaves, of individuals controlled by hypnosis or evil neurosurgeons, or of those manipulated by propaganda or advertising. Thoughts and actions are only mine in so far as I, as an independent individual, take responsibility for them. Only by such deliberative and conscious activity can I take ownership of them. Descartes' rejection of received opinion and Kant's insistence that a Subject must be self-regulating exemplify this Modern tradition.

This tradition sets up a dichotomy between reason and emotion by relegating emotion to causal bodily processes and so placing it on the side of heteronomy. If the self is identified with a higher, perhaps spiritual, soul and emotions are understood as lowly, bodily processes, then the capacity to freely follow norms seems to require that one must escape from emotionality if one is to be a rational, autonomous self.

Evolution presents a challenge to this dualist tradition. Normative selves do not spring up fully grown, like Athena from the head of Zeus, but originate in a gradual evolutionary process. Once, say six millions years ago, there were no rational, responsible selves.² Now there are. How could we have got here from there? The possibility of purely natural biological processes governed by causal laws giving rise to norms, and to creatures that are bound by them, is hard to imagine. Yet it is clear that such a transition actually occurred.

This paper aims to make this transition easier to imagine. I will offer a just-so story that proposes a gradual evolution of norm-governed hominins. I hypothesize the development of "proto-selves" intermediate between non-human primates and modern autonomous selves equipped with language and the capacity to give reasons. Even prior to the arrival of language, early hominins found ways to unify into groups based on the cumulative inheritance of skills from generation to generation. Such groups could only have been maintained by individuals cooperating and performing their own distinctive roles within the community. Only if each proto-self had been bound by the social norms of the group would this have been possible. At this pre-linguistic stage these norms could not have been based on explicit rules, so I'm conjecturing an intermediate form of normativity based on the emotions that constitute group identity.

In reality, of course, there was no such static "stage." Nor is there any sharp divide between pre-linguistic and linguistic hominins. What I am offering is a kind of snapshot of a continuous ongoing process, a snapshot that will reduce the leaps the imagination must take to make more comprehensible the passage from pre-human primates to contemporary, norm-governed selves.

2. Cooperation

One of the most distinctive features of human evolution is the progressive development of cooperation. Cooperation typically involves a division of skilled labour. The very successful evolutionary strategy that hominins adopted involved the outsourcing of many of the individual's biological and social needs to others. Hunting large animals with primitive techniques required that one trust others to play their roles. Fires for cooking had to be kept burning while others were away gathering or hunting. Making stone tools was a specialized skill that few individuals could possess. The tribe's children had to be protected from predators. Resources had to be protected from marauders from other tribes. Such cooperation beyond immediate family groups almost certainly existed by the time of *Homo erectus*. Acheulean stone axes, for instance, date from 1.76 million years ago and the skill was still being inherited with only minor changes 1.5 million years later. Yet it is highly unlikely that language as we know it developed until much later, possibly as late as *Homo sapiens* 300,000 years ago. Hence, it is very likely that there was cooperation beyond immediate family groups before the arrival of language.

The development of cooperation, however, runs up against a logical argument: even if a cooperative group of organisms were to be formed, individuals within it who took advantage of group resources without contributing -- free-riders -- would have a reproductive advantage, so over a period of generations non-cooperators would predominate and the cooperative group would break up. In the face of this theoretical argument, we need to account for how hominins governed by cooperative norms did, as a matter of empirical fact, evolve and form stable communities

Let me start by rejecting a Hobbesian account. For Hobbes, prior to the formation of society, humans lived as individuals in the "state of nature," where each competed with each other, often violently, for resources.³ Since it was to their rational advantage to overcome this "state of war," people decided to cede power to a sovereign who would establish and maintain a social order within which competition could be restrained and social cooperation enforced. Social order requires a contract between individuals each pursuing their own best interests.

The Hobbesian notion of cooperation by contract presupposes that, in the state of nature, there are already selves equipped with language who can rationally evaluate the advantages of cooperation and contract with others by responsibly binding themselves to certain norms of behaviour.⁴ Since my project is to trace the origin of such normative selves, Hobbes' approach is

circular for it starts off with the kind of self that only comes into being, I claim, at the end of the story.⁵

The Kantian notion of normative selfhood runs up against the same difficulty. For Kant, "obeying a rule" -- his language for following norms -- is an autonomous activity: only if a person knows what the rules are and freely chooses to act on the basis of this knowledge can they be said to be following rules. Planets move in a way that can be *described* by rules, but they are not *obeying* these rules, for they have no knowledge of them.⁶ People may act out of instinct, habit, desire, or emotion, in a way that can be described by rules but in these cases they are no more "obeying rules" than planets are.

For my thought-experiment to be plausible, however, we must be careful not to attribute to proto-selves those very characteristics of Modern, Enlightenment selves -- autonomy, rationality, responsibility and self-consciousness -- whose origin the account is attempting to explain. The capacity to follow the communal norms that enabled early human cooperation cannot be understood as the following of explicit rules in this Kantian manner.

More recently, Tomasello has presented evidence that chimps, and so presumably their common ancestor with hominins, lacked cooperative norms, despite their intelligence. He hypothesizes an intermediate evolutionary stage -- "joint intentionality" -- that is pre-linguistic, in which pairs of individual "early humans" learned to cooperate in joint practical projects.⁷ In his scenario, each individual saw that the joint project -- such as hunting a gazelle -- required different roles for each member of the pair and each communicated by gesture and pantomime to help the other to accomplish her role. He speculates that this joint stage occurred with the arrival of *Homo heidelbergensis*, the common ancestor of Neanderthals and *Homo sapiens*, about 400,000 years ago.

While Tomasello's approach is much more realistic than that of Hobbes or Kant, he shares two presuppositions with them. First, all three take an intellectualist stance: thought comes first; community comes second. Rationality is the basis for cooperation: only autonomous selves can deliberately weigh the various factors, obey the rules (Kant), contract with other (Hobbes), or deliberately adopt a joint project (Tomasello). In rejecting this intellectualism, I am proposing that such autonomy is a product of social cooperation, not a presupposition for it. I argue that emotion, not intellect, is the foundation for early human cooperation.

Their second presupposition is individualism: these accounts take the perspective of an individual. Hobbes and Tomasello phrase the cooperation problem as how individuals gain or lose by the strategy. But this is the wrong place to start. Even if genetic mutations in individual organisms can adequately explain the evolution of other animal species -- which I doubt -- the uniquely cultural evolution of humans is a group phenomenon. We should contrast human systems of cooperation not with isolated competing individuals, but with pre-human biological systems. Chimps and, presumably, our common ancestors with them, already lived in bands. Individualism imagines proto-selves as preformed and independent selves -- Hobbesian or Kantian rational

subjects -- thinking about the advantages of joining together. A better picture is that of primate bands held together by instinct evolving into human communities held together by culture.

3. Group Identity

Tomasello hypothesizes that there is a second evolutionary watershed -- "collective intentionality" -- which arrived with *Homo sapiens* -- "modern humans" -- about 200,000 years ago and enabled groups to be as large as 150. Unlike the prior stage of "joint intentionality" that involved individuals pairing up with particular partners for *ad hoc* projects, collective intentionality was less individualistic, for it established conventional, cultural norms for "how things should be done" by everyone in the group. Cooperation in these collectives was achieved by group identification. Each individual identified with the group and identified other members as "one of us." Those who follow "our" way of life are members of "our" community; they share our cultural norms, our projects, our beliefs, our values and our practices. An individual who does not do things our way is not "one of us;" they cannot be counted on. Thus, evolutionary selection weeded out non-cooperators within the group, and constituted the group as itself a unit of evolutionary selection in competition with other human groups. This in-group/out-group attitude, claims Tomasello, is unique to *Homo sapiens* and is not to be found among the other apes.⁸ Cultural norms originated in the group; group members felt obliged to obey them; and people could assume that everyone else in the group would also follow them, even those they had not previously met or worked with in joint projects.

Tomasello's claim for the importance of group identity is, I think, correct, but his intellectualist presupposition leads him to assume that such cooperating groups could have established cultural norms only by the use of language.⁹ Since I think that language arrives later than the formation of cooperating groups, my conjecture is that such communal identity could have been based on emotional relationships without the need for language. Group identity should initially be understood as a way of organizing emotional responses and only secondarily of structuring the mind and its thinking.

Consider a contemporary team sport, such as soccer or hockey. A team scores and the fans stand and cheer. The fans act spontaneously, not deliberately. They are not thinking of some obligation of group membership, rationally deciding that cheering is the right thing to do or following some rule that tells them how to behave. They are just imitating the others because "this is who we are -- we are Manchester United supporters." They are expressing their solidarity with their team: what it is to be a team fan is, among other things, to dress like one, to wave banners, to stand and cheer. They are conforming to the expectations of the group. Imagine a person in the group who doesn't stand: the fans expect her to stand and cheer; they are perplexed and distressed that she does not. She provokes puzzlement, a sense of impropriety, possibly anger, maybe a desire to exclude her -- she'd better sit some place else! Organizers place fans of opposing teams in different sections

to avoid such potential violence. Yet none of this is based on autonomous reasoning or explicit, linguistic norms. Team spirit is an emotional phenomenon, not a contractual, intellectual, rational one.

I offer such team spirit as an analogy for the emotional group identity that established norms for proto-selves. This analogy, of course, has a serious limit: while modern fans may check their autonomy at the door and act exclusively as part of the group, they do have another life outside of the game. If things get too out of hand, other norms of conduct, criminal law for instance, may cut in and subdue the enthusiasm. What I am proposing is a proto-human mode of group bonding that was exclusively this kind of team culture, without outside laws, without autonomous selves. Such emotional group identity, I am conjecturing, could account for the evolution of the norms needed for early human tribal cooperation without smuggling in the notion of a rational self.

4. Emotions

How could such emotional identification have come into being? The Modern intellectualist understanding of selfhood often relegates emotion to some instinctive, fleeting and primitive physiological process within individuals, that is, to a disruptive animal mechanism that undermines the freedom of the autonomous self and interferes with rational normativity. To understand the role emotion may have played in the evolution of proto-selves, we need an alternative, more positive, and better defined account of emotion as enduring, culturally learned, communal and intentional. I will elaborate on each of these features in turn.

"Emotion" sometimes refers to a fleeting feeling, as when the media refers to someone who weeps as "becoming emotional." Goldie rejects this sense and offers instead a notion of emotion as an enduring episodic state.¹⁰ It is in Goldie's sense that I am claiming group identity is emotional: just as a fan's identification with her team lasts for years, though it may only be expressed episodically during games, a proto-self's identification with her tribe was a life-long state, though it manifested itself in the ways she hunted with others, respected elders or danced to drum-beats, ways which were distinctive of her culture.

Emotions, or at least some of them, are culturally learned. All animals have instinctive, genetically programmed emotional reactions to the world -- *primary* emotions: they fear predators, get excited by prey, are aroused by sexual opportunities, and so on. The distinctive feature of the human way of life, however, is that it goes beyond genetic programming and depends on learned behaviour that is passed on from generation to generation. Biologically based emotions continue to exist, but cultural tradition patterns their expression. Incest taboos, for instance, may restrict biologically based feelings of sexual attraction to non-relatives. A culture may also innovate and create new, non-instinctive emotions -- *secondary* emotions -- such as pride in the achievements of other group members. While all emotions involve bodily

processes, it is the learned – as opposed to innate – patterning of the emotions that creates group identity.

Emotions, in so far as they are socially learned, are not purely individual phenomena. Some emotions, such as hostility to a foreign tribe, may be shared simultaneously by many members of the society. However, even emotions expressed by a proto-self who happens to be alone may have a communal basis. A tribe member who feels protective towards a crying child of another member is expressing an emotion that is social in the sense that it is culturally patterned, even though it may not be shared by anyone else at that particular moment.

Emotions are not learned by instruction, at least not in the pre-linguistic stage I am conjecturing. Emotions are picked up by contagion and imitation. When a mother startles and becomes afraid at the sight of a snake, the baby in her arms will come to share the fear, probably even before seeing the snake.¹¹ A child may come to feel safe and comfortable in a cave because her family group or tribe exhibits these emotions when they gather in the cave. When it is time to go hunting, the project is not discussed, not even by gesture or pantomime. Rather, one hunter gets restless, the excitement spreads to others by contagion, tensions rise and soon a party moves together with a common purpose. Such contagion may be due to mirror neurons, to scent-signalling, or other processes, but whatever the mechanism, individuals come to regularly undergo the same emotions as their group members without the need for language-based instruction.

Emotions are intentional. The Enlightenment concept of selfhood tends to relegate emotions to pure physiology and so paints them as meaningless mechanisms. Yet even for animals, emotions are intentional states, that is, they are about objects and have a functional meaning.¹² When a gazelle is fearful of a lion that fear is intentional in that it is about something, namely the lion: it reveals the lion as a dangerous object. In this sense, an emotion can be said to be "fitting" when it is appropriate to its object or to the situation.¹³ A wolf with rabies may be angry with other animals and attack them in an indiscriminate and dysfunctional manner. We can label such anger "inappropriate" in contrast to the anger of a healthy wolf that is aggressive only for food or defence.

Culturally patterned emotions elaborate this biological intentionality. The learned, encultured feeling of security in a cave is about an object, the cave.¹⁴ Assuming caves really are safe places for the tribe, an individual who is afraid of the cave is in error: her emotion is inappropriate. It is the intentionality of emotions that gives them their bivalence, their capacity to be correct or incorrect, and that enables emotions to establish norms, as we shall see below.

5. The Evolution of Group Identity

With this understanding of the nature of emotions, cooperation between proto-selves could plausibly have been based on emotional group identity before the development of language, of contracts, or of explicit rules. The theoretically disruptive effects of free-riders acting solely in their own interests was not overcome by considerations of reason but by the formation of social bonds based on culturally patterned emotions. Yet we still need to ask how, even without reliance on language, such a group identity could have evolved and have been preserved in the face of such divisive individual competition.

Dunbar suggests a solution. He notes that apes who regularly groom each other form an emotional bond -- possibly because of the release of endorphins -- and are more likely to cooperate with each other in other activities.¹⁵ Grooming, however, is time-consuming and the time needed increases with the size of the group. As hominin groups became larger, the task of keeping track of relations between individuals required more neural resources.

Australopithecines, with a brain size of 480 cc, lived in groups of about 50. *Homo erectus*, with twice that brain size, could relate to 100 people. Early *Homo sapiens* lived in tribes of about 150 and had a brain volume of about 1250 cc.¹⁶ According to Dunbar's "social brain" hypothesis, the larger brain volume was not needed for using tools, but for maintaining cooperative social relations. Since larger brains consumed much energy, however, more time had to be spent on food gathering, so as group size increased the time available for grooming was reduced rather than increased. Dunbar calculates the time-budgeting involved and concludes that alternative means of social bonding other than grooming would have had to be found if such larger hominin groups were to be held together.

Dunbar discusses a number of alternative means of bonding, such as laughter and religion. I will focus on music and dance to illustrate how even without language group identity could have evolved beyond grooming. Dunbar hypothesizes that communal dancing and music developed as early as *Homo erectus* as one technique for bonding in larger groups.¹⁷ A possible objection comes from theorists who claim that music that is based on relative pitch -- melody -- depends on, and therefore appears after, language.¹⁸ However, music in the sense of rhythm, such as a drum-beat, is universal among contemporary humans, so it may have an early, genetic basis. Among primates, it is unique to humans, so it may have evolved early enough to contribute to group identity.¹⁹

Direct evidence for this speculation is hard to find. Indirect evidence, however, comes from Dunbar's psychological investigations which show that making music together releases endorphins in modern humans and that the endorphin release enhances social cooperation.²⁰ (Other research suggests that oxytocin is involved.) Other studies find that most people use music to induce emotions. Pre-linguistic infants pay rapt attention to songs, regardless of the linguistic content or the identity of the person singing.²¹ Some contemporary hunting and gathering cultures engage in rituals that involve drumming and dance with strong emotional elements. Music is almost invariably associated

with clan gathering or national celebrations. There is evidence that contemporary adults who actively make music together and move in synchrony are more likely to cooperate on other tasks.²² Sports teams and religious groups typically rely on music to incite a sense of unity. While all this research is based on modern humans, the universal presence of music among humans suggests that the capacity is long-standing. Hence, human musicality, at least in the restricted sense of rhythm, may well have been one way of replacing primate grooming as a tactic for inculcating the emotions needed to bind large cooperative groups of proto-selves.

Musicality, of course, is not likely to have been the sole source of communal emotions. My conjecture is that early proto-human societies came about by small tribal groups of hominins developing culturally patterned emotions through festivals of rhythm and dance, shamanistic religious-like rituals, totemic symbols and other techniques. Isolating musicality as a separate element from these other activities is a contemporary conceptual abstraction. What I'm claiming is that it is the ensemble of these kinds of activities that generated the group identification needed to overcome the dispersive forces of competition and that created proto-selves governed by communal emotional norms.

6. Normativity

My central claim in this paper is that such emotional group identity, however it evolved, constituted proto-selves as normative creatures. Each culture established patterns of behaviour that every group member should follow. These emotional norms were maintained and enforced by the community. Those who didn't, or couldn't, follow the appropriate norms were not identified as group members: they were not "one of us." They could not be counted on to share the dangers of the hunt, or to protect the group's children. If emotional expressions of disgust or rejection were not enough to enforce these norms, other community members would punish the non-conformers, exclude them from joint enterprises, or ultimately exile or kill them. While communities varied in how they handled the problem, every culture had to find some strategy for enforcing its norms and maintaining the unity of its pattern.

It is crucial that we not misinterpret this emotional stage in an intellectualist fashion. Fully fledged selves may voluntarily follow rules that they are consciously aware of, in the way that Kant conceives of obeying obligatory duty, but following an emotional norm is not a matter of explicit choice in this way. Recall my analogy with soccer fans: they express excitement at the appropriate moments by contagion from the emotion of other fans. This is not like an autonomous self who might objectively perceive a situation and then deliberately evaluate it normatively. Such an is-ought gap is an artifact of rational selfhood; it assumes that first there is knowledge of facts and only secondarily -- and problematically -- there is evaluation of these facts on the basis of desires, or of cognitive or moral norms. If we are to avoid parachuting the concept of a fully developed self back into evolution in an

anachronistic manner, we must avoid such a dichotomy. For proto-selves there was no is-ought gap. Snakes were felt to be dangerous, a mammoth was fearsome, eating the flesh of a fellow tribesmember was disgusting, incest taboos resulted in the absence of sexual attraction, a female in estrus was sexually attractive to a male. The world in which proto-selves lived was constituted not of neutral, scientific objects and facts, but of entities laden with emotional value, with inclinations to actions.

It is the intentionality of emotion that determines this normativity. The directedness of an emotion to an object in the world means that it is the object that sets the standard for the emotion's appropriateness or inappropriateness. Emotional intentionality has a triangular structure: first, there are the communal norms enforced by the culture on each proto-self; second, there is the learned emotional pattern that makes up a proto-self; and third there is the world of objects with their significances and values to which the proto-self thereby gets access. To live in a cultural world is to perceive objects, actions and others as having cultural meanings: each individual embodies the norms of the culture. An individual may have learned from their tradition, for instance, that snakes are to-be-feared. This doesn't mean they first recognize a snake and secondarily apply the norm "to-be-avoided" to it. More likely, a rustling in the leaves is felt to be dangerous, to be escaped from, and only within such a fearful feeling does the situation crystallize into a snake. Cultural norms, the emotional structure of proto-selves, and the world of entities with meaning, are three sides of the same coin.

This is also true of how individuals in the cultural world are perceived. Some are seen as to-be-followed, others to-be-cooperated with. Children are to-be-protected, non-cooperators are to-be-shunned. Similarly, actions in the cultural repertoire are not just events that objectively happen; they are things-we-do, or things-we-don't-do, and so on. Food gathering is to be cooperated with; fighting foreigners "comes naturally," that is, it is the culturally expected behaviour. During a ritual, the drum-beat automatically engages the feet in dancing, without reflection.

In learning to respond in the manner patterned by their tradition, individuals become subject to the cultural norms of appropriate or inappropriate emotions. It is the emotions involved in group identity that constitute proto-selves as normative creatures. At this evolutionary stage we have individuals who during childhood have learned more or less successfully a pattern of behaviour and who, as adults, have that pattern reinforced by coordinated interactions with others. This is just a matter of conformity not of freedom. Appropriate cultural behaviour is not an add-on, imposed on or voluntarily accepted by the group member. What the individual *is* is a biological organism whose behaviour -- including brain, hormonal and emotional behaviour -- conforms to the patterns of the culture. Group identity determines the very being of the tribesmember in the first place. While their normativity is not that of autonomous selves, it is, in retrospect, an intermediate evolutionary stage from which modern selves can develop.

7. Conclusion: Modern selves

Modern selfhood presents itself as autonomous and rational, obeying cognitive, moral and linguistic norms on the basis of clear, conscious principles. My evolutionary just-so story suggests a way that such normativity can evolve gradually and historically. Yet my account is not of purely historical interest. Modern selves mature from children who relate to their parents and communities emotionally and, in a sense, recapitulate the evolutionary history. Even when we are adults, the explicit norms we follow are rooted in the social order with which we emotionally identify. This is particularly obvious in the case of language: I follow the norms of English because I am an Anglophone. I did not choose to be an Anglophone. I inherited this identity from my parents and their community. Similarly, some follow religious norms, yet in only rare cases is their membership in a religious community a matter of explicit choice.

My story suggests - though I cannot pursue the issue here -- that, in opposition to the traditional view, emotionality should not be seen as a falling away from ideal rational behaviour, even for modern selves. Rather, emotional identity is the basis for the norms we bind ourselves to as autonomous selves. It is our national, historical, ethnic, linguistic, gender and religious identities that make us into -- and sustain us as -- normative creatures. Instead of the Cartesian picture of the self as a pure spiritual entity, beyond language, body and culture, we should conceptualize the autonomous self as embedded in a community whose emotional identification is the inescapable basis for its normativity, both in its evolutionary history and in its present existence.

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Bibliography

Brandom, Robert B. 2013. *Reason in Philosophy: Animating Ideas*. Cambridge: Harvard University Press.

Dunbar, Robin. 2012. Performance of Music Elevates Pain Threshold and Positive Affect: Implications for the Evolutionary Function of Music. *Evolutionary Psychology* www.epjournal.net 10(4): 688-702.

Dunbar, Robin. 2014. *Human Evolution*. Pelican Books.

Goldie, Peter. 2000. *The Emotions: A Philosophical Exploration*. New York: Oxford University Press.

Hobbes, Thomas. 1651. *Leviathan*.

Johnson, K. V.-A. and Dunbar, R. I. M. 2016. Pain tolerance predicts human social network size. *Sci. Rep.* 6, 25267; doi: 10.1038/srep25267 (2016).

Patel, Aniruddh D. 2008. *Music, Language and the Brain*. Oxford: Oxford University Press.

Solomon, Robert C. 2004. Emotions, Thoughts, and Feelings. in *Thinking about Feeling*. Solomon, Robert C. (ed.), Oxford: Oxford University Press. 76-88.

Tomasello, Michael. 2014. *A Natural History of Human Thinking*. Cambridge Massachusetts: Harvard University Press.

Trehub, Sandra E., Niusha Ghazban, and Mariève Corbeil. 2015. Musical affect regulation in infancy, *Ann. N.Y. Acad.Sci.* 1337 (2015) 186-192.

Endnotes

- 1 "I think that philosophy is the study of us as creatures who judge and act, that is, as discursive, concept-using creatures. And I think that Kant is right to emphasize that understanding what we do in these terms is attributing to us various kinds of normative status, taking us to be subject to distinctive sorts of normative appraisal. So a central philosophical task is understanding this fundamental normative dimension within which we dwell. Kant's own approach to this issue, developing themes from Rousseau, is based on the thought that genuinely normative authority (constraint by norms) is distinguished from causal power (constraint by facts) in that it binds only those who acknowledge it as binding. Because one is subject only to that authority one subjects oneself to, the normative realm can be understood equally as the realm of freedom. So being constrained by norms is not only compatible with freedom—properly understood, it can be seen to be what freedom consists in. I don't know of a thought that is deeper, more difficult, or more important than this." (Brandom 116-117)
- 2 "[A]uthority, responsibility, and commitment were not features of the non- or pre-human world. They did not exist until human beings started taking or treating each other as authoritative, responsible, committed, and so on—that is, until they started adopting normative attitudes towards one another." (Brandom 69)
- 3 "Whatsoever therefore is consequent to a time of war, where every man is enemy to every man, the same consequent to the time wherein men live without other security than what their own strength and their own invention shall furnish them withal. ... and the life of man, solitary, poor, nasty, brutish, and short." (Hobbes Ch XIII)
- 4 "But the most noble and profitable invention of all other was that of speech, consisting of names or appellations, and their connexion; whereby men register their thoughts, recall them when they are past, and also declare them one to another for mutual utility and conversation; without which there had been amongst men neither Commonwealth, nor society, nor contract, nor peace, no more than amongst lions, bears, and wolves. The first author of speech was God himself ..." (Hobbes Ch IV)
- 5 "To make covenants with brute beasts is impossible, because not understanding our speech, they understand not, nor accept of any translation of right, nor can translate any right to another: and without mutual acceptation, there is no covenant. ... The matter or subject of a covenant is always something that falleth under deliberation, for to covenant is an act of the will; that is to say, an act, and the last act, of deliberation;" (Hobbes Ch XIV)
- 6 As Brandom puts it: "Kant must be able to distinguish the *normative* constraint characteristic of knowing and acting *subjects* from the necessitating causal constraint characteristic of the *objects* they know about and act on. In his terms, he must be able to distinguish constraint by *conceptions* of laws from constraint by laws." (Brandom 62)

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- 7 "Early humans' new form of collaborative activity was unique among primates because it was structured by joint goals and joint attention into a kind of second-personal joint intentionality of the moment, a 'we' intentionality with a particular other, within which each participant had an individual role and an individual perspective." (Tomasello 33)
- 8 "That humans do indeed think of their group as a 'we' of interdependent individuals – that humans identify with their group – is a well-established psychological fact. Most fundamentally, humans have a marked in-group/out-group psychology that is, in all likelihood, unique to the species. ... In the contemporary world, one sees such group identity and collective guilt, shame, and pride quite clearly in struggles over ethnic identity, linguistic identity, collective responsibility, and so forth – and even in such frivolous phenomena as fan support of sports teams. As far as we know, great apes do not have, and early humans did not have, this sense of group identity at all." (Tomasello 84)
- 9 "The result is what we may call cultural practices, in which individuals, in effect, coordinate with the entire cultural group via collectively known cultural conventions, norms, and institutions. In communication this means, of course, linguistic conventions, which serve their coordinative function because, and only because, they exist as 'agreements' in the group's cultural common ground." (Tomasello 81)
- 10 "An emotion, I argue, is a complex state, relatively more enduring than an emotional episode, which itself includes various past episodes of emotional experience, as well as various sorts of dispositions to think, feel, and act, all of which can dynamically interweave and interact." (Goldie 11)
- 11 "The essential idea is that emotions can be educated: we can be taught to recognize, and to respond emotionally, as part of the same education. For example, we can be taught to recognize things as dangerous and to respond, appropriately and proportionately, with fear." (Goldie 28)
- 12 "From the outset, I endorse the view, held at least since the time of Aristotle, that the emotions are intentional – they are directed towards an object: if I feel fear, then there is something, some object, which is the object of my fear." (Goldie 3-4)
- 13 Solomon, insists that emotions are "about the world" and so are kinds of "judgments," but judgments that are "pre-cognitive," or pre-linguistic. (Solomon 77)
- 14 "The process of teaching a child how to identify things which are dangerous is typically one and the same process as teaching that child when fear is merited: ... Whilst recognition and response are distinct, and can come apart ... they are related because the emotional response will be of the sort which someone educated in this way *ought* to have in dangerous circumstances, ... (This 'ought' is ... both normative and predictive.)" (Goldie 30-31)
- 15 Johnson, K. V.-A. and Dunbar, R. I. M. 2016.
- 16 Dunbar, 2014, 107.

Endnotes

- 17 "...only humans seem to engage in music as a social activity. For birds, music seems to be mainly a male advertising display. Humans use music as a mechanism for community bonding in a way that seems to be quite unique." (Dunbar 2014 17)
- 18 "Although animals can use relative pitch as a cue (e.g., to judge if a tone sequence is rising or falling independent of its absolute pitch range; Brosch et al., 2004), this often requires extensive training. This contrasts sharply with human perception. Even infants readily recognize the similarity of the same melodic contours in different pitch ranges (Trehub et al., 1984), and remember melodies based on patterns of relative rather than absolute pitch (Plantinga & Trainor, 2005). This suggests that natural selection may have modified the human auditory system to favor relative pitch processing, a modification that may have its origins in speech intonation perception." (Patel 396)
- 19 Patel discusses the recent, still rather inconclusive, research on this issue. (Patel 411)
- 20 "In so far as endorphins seem to underpin primate social relationships (Curly and Keverne, 2005; Dunbar, 2010; Keverne et al., 1989), these results provide prima facie evidence in support of the suggestion that active participation in musical events (including both musical performance and dancing) is likely to stimulate the same neuropeptide system and thereby give rise to the kinds of euphoric effects noted by Durkheim (1915/1965), Turner (1966), Roederer (1984) and others. These effects may play a particularly important role in bonding large social groups in humans (see also Dunbar, 2008; Miles et al., 2009; Mueller et al., 2003). Given the finding by Wiltermuth and Heath (2009) that synchrony enhances cooperation in economic games, this offers a plausible explanation for the role of human capacities like music that involve highly synchronised behaviour and trigger the release of endorphins in the evolution of the hyper-cooperativeness that is so characteristic of humans. Our findings at least provide prima facie evidence that music generates the kinds of endorphin 'highs' that would function in this way in a communal context." (Dunbar 2012 698)
- 21 Sandra E. Trehub, Niusha Ghazban, and Mariève Corbeil.
- 22 "Somehow, behaving in close synchrony seems to ramp up the endorphin effect by a very considerable margin. If the role of music ... was to engineer a form of grooming-at-a-distance that could encompass more layers of the social network once human community sizes began to edge up above the 75 individuals typical of *ergaster* and *erectus*, then the added social time requirement might have been quite modest compared to what would have been needed if each person had to be contacted individually." (Dunbar 2014 159)