

1 Prologetic Remarks

1.1 The Organising Framework

Brian Skyrms opens his excellent 1996 book *Evolution of the Social Contract* thus:

The best-known tradition approaches the social contract in terms of rational decision. It asks what sort of contract rational decision makers would agree to in a preexisting ‘state of nature.’ This is the tradition of Thomas Hobbes and – in our own time – of John Harsanyi and John Rawls. There is another tradition – exemplified by David Hume and Jean Jacques Rousseau – which asks different questions. How can the existing implicit social contract have evolved? How may it continue to evolve? This book is intended as a contribution to the second tradition.

(Skyrms, 1996, p. ix)

The evolutionary accounts of Hume and Rousseau were pre-Darwinian and pre-von Neumann and game theory. Skyrms’ ‘contribution to the second tradition’ employs aspects of the theory of games, descended from von Neumann, and evolutionary dynamics, descended from Darwin. This Element brings the full panoply of evolutionary biology to the evolution of the social contract and the justification of the moral theory which emerges therefrom.¹

Pivotal to this account, rational deliberation occurs late in the evolution of the social contract and not, in the tradition of Hobbes, as generative. The animal propensity for reciprocation, cooperation, intraspecies conflict, territoriality and sociality dates from the Cambrian period, 500 million years ago. For much of that history, there is no capacity for rational decision-making of the kind required by the Hobbesian tradition.

The account of the *justification* of morality developed herein is audacious. Although in many respects it is an extension of a very large body of existing work in ethics, evolutionary biology, evolutionary psychology and anthropology, in important respects it is also a novel approach. Part of its novelty echoes Richard Richards’ (2005) statement, ‘The concept of fitness, I will argue, is the fundamental valuational concept’ (p. 271). His purposes and strategies differ somewhat from mine, but we share common assumptions and perspectives.

¹ Whether Hume was a social contract theorist is unsettled. Hume (1772/1984, pp. 186–201), in his essay ‘Of the original contract’, is critical of the social contract origins of government and state. David Gautier (1979), however, has argued that Hume was a social contractarian, a view that Stephen Buckle and Dario Castiglione (1991, pp. 461–2, n. 15) challenge. What is more settled is that Hume’s conception of the origin of society and morals is not based on rational decision-making in a pre-social state of nature; that is what sets him apart from Hobbes, Locke and, more recently, Rawls, Gautier and Harsanyi.

This theory of morality is naturalistic, by which I mean that it is entirely grounded in the natural order; there are no appeals to things or realms beyond what exists in nature and the dynamics underlying the behaviour of what exists in nature. Some versions of naturalism go further and adopt views about the ultimate constituents of nature – monads, for example; the naturalism adopted here is agnostic on these views. Naturalistic stances with respect to moral norms are immediately confronted by some philosophers wielding a version of Hume’s ‘is/ought’ barrier or G. E. Moore’s naturalistic fallacy. These objections are dispatched in Section 5.

1.2 Evolutionary Reproductive Success

There is widespread acceptance of the explanatory relevance of biological evolution to morality. Evolution entails that we are animals and, like other animals, have evolved sentiments – empathy, compassion, desire for acceptance, aggression and jealousy, for example – and propensities – reciprocation, cooperation and sociality, for example. We have these because they enhanced survival in some environment in our recent or very distant past. These sentiments and propensities underpin our moral values. Hence, evolution explains the origin of moral values. Also widespread is the view that an explanation of origins does not provide a justification of moral values.

Some ethical theorists claim spiritual (theistic or other credal) access to authentic moral values. These justifications are supernatural – independent of the empirical world. Also, notwithstanding the name, natural law theories of morality are supernatural in that they rely on ‘right thinking’: that which is obvious to all right reasoning people. ‘Natural’ here is not synonymous with ‘empirical’; something more than (supra) empirical is involved (Haakonssen, 1992; Murphy, 2019).

Non-spiritually based justifications of moral values abound. The history of philosophy overflows with such accounts. In the twentieth century, some theories abandoned the quest for justification altogether. Roger Crisp (2013) provides an excellent collection of articles covering the gamut of theories advanced over the last two and a bit millennia.

The ethical theory developed here is naturalist and contractual and justifies moral principles evolutionarily, hence it is appropriately coined ‘contractevolutionism’. On this theory, biological evolution *explains* how the values we accept have emerged and *justifies* acceptance of them. It draws on a number of fields of empirical inquiry, especially evolutionary biology, psychology, anthropology and sociology.

A key element of the causal mechanisms (the dynamics) of evolution is reproductive success. Elementary reproductive success is the transmission of one's genes into the next generation. Evolution requires more. It requires differential reproductive success (DRS): the transmission of one's genes to the next generation *in greater numbers* than relevant alternate genes. This is the essence of natural selection; 'fitter' organisms will produce more surviving offspring. Of course, like a journey, which is the culmination of many footsteps, so evolutionary change is the culmination of many single generations. Long-term DRS leads to evolutionary reproductive success (ERS), which is the fundamental concept employed here. Superficially, copulatory success is the measure of fitness. As subsequent discussion makes clear, however, copulatory success is not a reliable measure of fitness. A host of other factors are involved: the characteristics of a copulatory partner, available resources, ability and inclination to ensure offspring survival to reproductive viability, the social arrangements that foster or hinder the survival and success of any offspring, for example. In the case of humans, one critical element in nurturing social arrangements is cooperation.

1.3 Reciprocity and Cooperation

Cooperation – mostly rooted in reciprocity – has evolved as a fundamental element of the evolutionary dynamical solution to the maximisation of the ERS of individual organisms. This evolutionary dynamic involves both biological and cultural evolution in higher organisms. Cooperation has resulted in social organisation. A large variety of social structures has arisen through a variety of pathways (see Scarre, 2018; Trigger, 2003). In most cases, in order to survive, a society must function as a coherent whole, be stable and promote the ERS of its members. The warp and weft of a social fabric that supports coherence, stability and ERS include moral principles. I focus on the principles of inclusivity, liberty and equality as essential to reciprocity, cooperation and ERS. There is a continuum, of course; a society, given its circumstances (physical and cultural), might lack maximal inclusivity, liberty or equality, but nonetheless it has more of it than any available alternative social structure under the circumstances of the moment. All things considered, therefore, this is the best alternative at that time, in that place, with the current resources and so on. The underlying assumption here is an evolutionary one; a society with greater inclusivity, liberty and equality will displace one with less because the one with more, on average, will promote more fully the ERS of its members.

1.4 'Evolutionary Ethics'

The account explicated herein has had an almost thirty-year gestation, beginning with an article in the journal *Human Evolution* and later refined in a 1999 article in *Zygon* (Thompson, 1990, 1999). The template for the view explicated here first appeared in *The Monist* (Thompson, 2002). I have benefitted greatly from opportunities to present developing versions to many audiences of evolutionary biologists and philosophers. The comments and penetrating criticisms have been invaluable.

Since 2010, I have avoided the term 'evolutionary ethics'. It has become murky and laden with baggage resulting from more than a century and a half of controversy and considerable confused thinking. The collections of Nitecki and Nitecki (1993) and Thompson (1995) provide a glimpse of this. Decisively, for me, was Robert Richards' assessment, several years ago, that the theory explicated here, albeit in an earlier form, is not evolutionary ethics.

1.5 Deeper Exploration

Given the nature of the Elements series to which this text belongs, I have avoided, for the most part, mathematical formalisms. Those interested in more mathematical treatments of topics such as reciprocity, sexual selection, kin selection and competition will find McElreath and Boyd (2007), Hoppensteadt (1982), Maynard Smith (1974a, 1974b), Bulmer (1994) and Renshaw (1993) valuable. Otto and Day (2007) provide an excellent, comprehensive mathematical approach to biological phenomena. In addition, the length restrictions of the Elements series place constraints on the exposition of the research and analyses of others on which the essence of the theory offered here draws. Hence, in place of such expositions, I have relied on extensive citations of the relevant material. Readers wishing to pursue a topic in more depth can turn to the References.

Furthermore, there are many interesting and important ethical and metaethical issues arising from consideration of evolution and its relevance to morality that are beyond the scope of this Element: moral scepticism, ethical realism and error theory, for example. Those who are interested in exploring these issues cannot do better than to consult Richard Joyce (2007), Richard A. Richards (2005) and John Collier and Michael Stingl (2020).

2 Social Contract Theory

The theory espoused here is a version of social contract theory and it arguably begins with Thomas Hobbes. His was a daring, revolutionary conception of political society and morality. This section provides a potted history to provide a context for evolution-based social contract theory.

2.1 Thomas Hobbes and the Origin of the Social Contract

That *rational* self-interest requires cooperation is one of the fundamental points that Hobbes makes in *Leviathan* (Hobbes 1651).² For him, in the state of nature – a state of the world without government and laws – it is every man for himself.

Hereby it is manifest, that during the time men live without a common Power to keep them all in awe, they are in that condition which is called Warre; and such a warre, as is of every man, against every man. (13:7)

Whatsoever therefore is consequent to a time of Warre, where every man is Enemy to every man; ... consequently no Culture of the Earth; no Navigation, nor use of the commodities that may be imported by Sea; no commodious Building; no Instruments of moving, and removing such things as require much force; no Knowledge of the face of the Earth; no account of Time; no Arts; no Letters; no Society; and which is worst of all, continuall feare, and danger of violent death; And the life of man, solitary, poore, nasty, brutish, and short. (13:8)

To this warre of every man against every man, this also is consequent; that nothing can be Unjust. The notions of Right and Wrong, Justice and Injustice have there no place. Where there is no common Power, there is no Law: where no Law, no Injustice. Force, and Fraud, are in warre the two Cardinall vertues. (13:12)

This is a bleak picture of the condition of man without society, but Hobbes believed that his view conformed to the observational evidence regarding human nature. Human nature, however, is a contested concept, which, historically, has been used to express some perceived *essential*, and usually innate, characteristics of human cognition, motivation or behaviour. I make no use of the concept but find Grant Ramsey's (2013) refreshing and compelling account the most amenable:

This account of human nature I will label the life-history trait cluster (LTC) account. This is to distinguish it from accounts that are essentialist or normative, since it is neither based on essential properties nor, as we will see in section 7, does it imply that human nature is in any sense 'good.' Instead, characterizations of features of human nature are merely descriptions of patterns within the collective set of human life histories. (p. 988)

This concept of human nature is valuable within an evolutionary context precisely because it is neither essentialist nor normative.

Hobbes' approach to morality is *naturalistic* and it is that feature that remains an important and enduring departure from his predecessors. The fundamental element of Hobbesian human nature is self-interest; this is the cause of the war

² All references to *Leviathan* are to this edition, but since chapters and paragraphs are referenced (e.g., 13:8), the quoted text can easily be found in any reprinting.

of all against all. The principal self-interest of the person is preservation of life and health against harm. All the other interests of an individual are subservient to this one; physical life and health are the *sine qua non* for all other interests.

A second fundamental feature of Hobbesian human nature is rationality. A rational individual will recognise that sacrificing some secondary interests is the best way to protect her/his life and health. This is the rational motivation for cooperation in the form of an agreement to live in a certain kind of coordinated mutual pact of protection. Rational self-interest is advanced through cooperation; cooperation among a large group of people leads to a society and a social fabric (rules, norms and enforcement). Contemporary evidence, however, suggests that humans have always existed in groups – as do many non-human primates – and cooperation is pervasive among humans (Bissonnette et al., 2015; Voorhees et al., 2020). It is not the result of rationally pursuing self-interest; it is a result of the dynamics of evolution driven by ERS. Those with a propensity to cooperate have greater ERS. This is the cornerstone of the Skyrms tradition and the one developed here.

Hobbes' rational self-interest entails a decision to surrender the pursuit of some lesser interests in order to participate in an organised collective (a society) that guarantees, or at least enhances greatly, the protection of life and health. This, of course, assumes that all other members of the society also have surrendered relevant lesser interests; they have agreed – at least tacitly – to a social contract, the principal feature of which is agreement to live in accordance with the civil laws enacted by the duly acknowledged authority and to accept the designated penalties for failure. One clear obligation that emerges for Hobbes is keeping one's promises: honouring the agreement.

Hobbes entertained three kind of societies that were a rational response to the state of nature: (1) a society governed by a supreme sovereign; (2) one governed by an oligarchy (a small group of rulers); and (3) democracy of some form. Hobbes considers the sovereign model preferable, although he allows that a democracy could be successful. Hobbes' ruler(s) has absolute authority. To disobey the ruler(s), or more aggressively to rebel, is to break one's promise – to dishonour one's agreement. Doing so has the potential to destabilise the society, which puts at risk the protection of life and health of all members of the society, which is contrary to self-interest. This sketches his social contract political theory.³

³ Hobbes' embrace of the concept of an absolute authority reflects his historical context. He lived through the English Civil War (1642–51), which was a chaotic period during which the monarch (Charles I) was tried for treason and beheaded. England became a republic (Commonwealth of England). Factions in Parliament then resulted in a protectorate state in which Oliver Cromwell ruled as a de facto dictator, and in 1660 a Convention Parliament declared Charles II the lawful

The dominant moral theory in Hobbes' orbit – natural law – can be traced back to at least Aristotle. Cicero and Thomas Aquinas also advocated versions of it:

True law is *right reason* in agreement with *nature*: it is of universal application, unchanging and everlasting . . . Whoever is disobedient is fleeing from himself and denying his human nature, and by reason of this very fact he will suffer the worst penalties, even if he escapes what is commonly considered punishment. (Cicero, *De Re Publica*, 51 BCE)⁴

Whatever is contrary to the order of reason is contrary to the nature of human beings as such; and what is reasonable is in accordance with human nature as such. The good of the human being is being in accord with reason, and human evil is being outside the order of reasonableness . . . So human virtue, which makes good both the human person and his works, is in accordance with human nature just insofar as it is in accordance with reason; and vice is contrary to human nature just in so far as it is contrary to the order of reasonableness. (Aquinas, *Summa Theologica*, 1265–74)⁵

Reason is inextricably connected to human nature, right action and virtue, such that a failure to live according to the dictates of right reason debases the person (corrupts that person's nature) and, thereby, the goodness of the human person and her/his actions. Aquinas achieved his theologising of natural law by embedding it in God's providence. God has a rational plan for the ordering of all of creation, usually understood as an eternal law, which governs all of creation. Natural law is an element of the eternal law and one of the ways humans, freely and rationally, are involved in the plan of creation. Reason is the human method of discovering it.

Hobbes was critical of this tradition and transformed the concept of natural law while retaining some of its core elements. He rejected Aristotle's conception of natural law and some major elements of Aquinas' conception. He, like Grotius, held that the law of nature was independent of God and discoverable by human reason alone. A key difference between Hobbes and preceding natural law theorists, especially theistically dependent natural law theorists, was that he

monarch and England entered a period of parliamentary monarchy – all this in a period of eleven years (1649–60) after the chaos of nine years of war. Hence, Hobbes' passion for stability is understandable. Stability, he argued, requires a ruler(s) that has absolute authority and citizens that have an absolute obligation to obey, an obligation derived from the agreement (contracting) of the individuals within a society to the social structure. Honouring such agreements is rational; it is a law of nature.

⁴ The edition cited is Cicero, *De Re Publica*, Cambridge, MA: Harvard University Press, 2006 (Loeb Classical Library, Vol. 16), p. 211, emphasis added.

⁵ The edition cited is Thomas Aquinas, *The Summa Theologiae of St. Thomas Aquinas* (revised ed.), translated by the Fathers of the English Dominican Province, London: Benzinger Brothers, 1920, I–II, q. 71, a. 2c.

held that law and obligation were not a product of reason but could only arise from the command of a sovereign, a view earlier held by Francisco Suárez.

Entangled with Hobbes' conception of natural law is a view of natural rights. The primary natural right was the right to be free, a consequence of which is that a government's legitimacy depends on the consent of the governed. One primary responsibility of those governing is to protect the maximum possible freedom (liberty) of the governed. Hobbes (1651) articulates this primary natural right as:

the Liberty each man hath, to use his own power, as he will himselfe, for the preservation of his own Nature; that is to say, of his own Life; and consequently, of doing any thing, which in his own Judgement, and Reason, he shall conceive to be the aptest means thereunto. (14:1)

He recognised that laws were a restriction of liberty and as such were in opposition to the natural right of liberty: 'Law is a fetter, Right is freedome, and they differ like contraries' (Hobbes, 1642/1983, 14:3, p. 170).⁶ Nonetheless, they are required for social cohesion, which maximises achievable liberty.

2.2 John Locke

John Locke was also an influential social contract theorist. Locke's *Two Treatises of Government* was published a decade after Hobbes' death. He, like Hobbes, uses the state of nature as a starting point. Locke differed from Hobbes on four things. First, Locke believe that a government could be illegitimate and in such cases revolution or insurrection were justified.

Second, Locke held that the equality of each person in the state of nature entails duties one to another, principally justice – not violating the rights of others – and charity. The Golden Rule – 'do unto others as you would have them do unto you'⁷ – captures these rights. It is an expression of the principle of reciprocity.

Third, Locke holds that although a condition of no government can exist in the state of nature there also can be government. There can be either a legitimate government – one chosen by a group – but it will, in the state of nature, be limited in power, almost a proto-government, or an illegitimate government, where one person or group dominates over others by force.

⁶ *De Cive*, which was originally published in Latin, was published in English in 1651 as *Philosophicall Rudiments Concerning Government and Society*, London: R. Royston.

⁷ Locke had in mind the Christian version found in Matthew 7:12 (Luke 6:31 has essentially the same command). This echoes 'love your neighbour as yourself' (Leviticus 19:18). Almost all religions (past and present), however, have some version. Many take a command of the Egyptian goddess Ma'at (c.2040–1650 BCE) to be a variant, and it is a central tenet of Buddhism.

Fourth, Locke took issue with what he believed to be Hobbes' extreme view of the law as restrictive of liberty. Locke claimed that the primary role of laws was the security of freedom, as stated in a well-known quotation from his *Two Treatises of Government*:

So that, however it may be mistaken, the end of law is not to abolish or restrain, but to preserve and enlarge freedom: for in all the states of created beings capable of laws, where there is no law, there is no freedom: for liberty is, to be free from restraint and violence from others; which cannot be, where there is no law: but freedom is not, as we are told, a liberty for every man to do what he lists: (for who could be free, when every other man's humour might domineer over him?) but a liberty to dispose, and order as he lists, his person, actions, possessions, and his whole property, within the allowance of those laws under which he is, and therein not to be subject to the arbitrary will of another, but freely follow his own.

(Locke, 1690/1980, p. 32)

Notwithstanding these differences, both accept (1) an initial state of nature (original position); (2) that the primary interest of every individual is survival; (3) that, rationally, government is required to maximise this end of survival; and (4) that the origin and legitimacy of government reside in the consent of those governed.

Locke offers an additional rational basis for government. A violation of the rights of individuals must be prosecuted by the wronged individual. Individuals, however, frequently have an exaggerated perception of the severity of the harm suffered and will mete out a more severe punishment than can be justified by the principle 'punishment should be proportional to harm'. In such cases, an injustice will be done. A government can regulate, prosecute and punish in a disinterested manner, thereby ensuring greater justice.

2.3 Social Contract and Political Revolution

Social contract theory became increasingly important in the eighteenth century, a century of two major revolutions: the American Revolution (beginning in 1775) and the French Revolution (beginning with the storming of the Bastille in 1789). Three influential individuals are noteworthy: Thomas Paine and his interlocutor, Edmund Burke, and Jean-Jacques Rousseau.

Payne and Burke represented two starkly different conceptions of social change. Burke, more in line with Hobbes, held that change most effectively occurs slowly in the context of a stable society. For him, revolution is an abrogation of one's duty to the state and its sovereign. Payne, more in line with Locke, held that revolution was justified when its goal was to replace an illegitimate government. Their views continue to influence political debate

today, especially in the United States.⁸ A comment in passing, Mary Wollstonecraft in her *Vindication of the Rights of Men* (1790) provided arguably the most effective and insightful critique of Burke's views.

Rousseau's *Social Contract* (*Du contract social*) (1762), the title making clear his theoretical position, was very influential; thirty-two French editions were produced in the decade 1789–99. In the tradition of Hobbes and Locke, Rousseau presented a conception of the state of nature in the *Discourse on the Origin and Foundations of Inequality among Men* (*Un discours sur l'origine et les fondements de l'inégalité parmi les hommes*) (1755). Rousseau, contrary to Hobbes, describes humans in the state of nature as peaceful, alone and lacking a sufficient sense of the future to worry about what is yet to come.

By the end of the eighteenth century, a social contract-based concept of natural rights became codified in the declarations of the revolutionary states. The US declaration (the Declaration of Independence) states:

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.⁹

And the French (the Declaration of the Rights of Man and of the Citizen) states:

Article first

Men are born and remain free and equal in rights. Social distinctions can be founded only on the common good.¹⁰

2.4 Twentieth-Century Revival

Interest in social contract theory waned during the next two centuries, but in the second half of the twentieth century there was a revival of interest, beginning with John Rawls (1958, 1971). Rawls' theory is principally political but, for him, morality is a consequence of particular political cultures on which a society is based. At the core of a democratic society are three essential factors: first, all citizens are free; second, all citizens are equal; and third, the social fabric exemplifies a fair system of cooperation. These constitute a central feature that places Rawls within the social contract tradition; society is a structure arising from the cooperation of free and equal individuals.

⁸ See: Yuval Levin's *The Great Debate: Edmund Burke, Thomas Payne, and the Birth of Right and Left*. Although Levin provides a rich account of the views of both men, it is hard to resist concluding that he is biased towards the views of Burke.

⁹ See 'Declaration of Independence: A Transcription', National Archives website, www.archives.gov/founding-docs/declaration-transcript.

¹⁰ See 'The Declaration of the Rights of Man and of the Citizen', Élysée website, www.elysee.fr/en/french-presidency/the-declaration-of-the-rights-of-man-and-of-the-citizen.