Introduction: Arenas of conflict

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Equilibrium lies at the heart of many of our models of the way the world works. Arguments within a diverse range of disciplines proceed from the premise that the normal state of being is a harmonious one. But that premise is not secure. Disharmony and conflict may be far more than aberrations from a normal state; they may be at the heart of the system. The essays in this volume explore the theme of disharmony and conflict, and the alternative proposition that a variety of systems are fundamentally informed, not just by a tendency towards harmony and equilibrium, but also by conflict.

These essays were first delivered as the 20th Darwin College lecture series. They explore conflict at a range of levels and scales, from the workings of genes and chromosomes at one extreme, and the evolution of galaxies within a 'multiverse' at the other. Between these two extremes, they focus upon an intermediate scale, that of human society. In this introduction, we draw out some of the themes that have recurred in the course of these diverse contributions.

An evolutionary imperative

Conflict has a resonance with one of the central ideas of Darwinian evolution, the struggle for survival. This resonance is a recurrent theme of essays by Haig, Wrangham and Cunliffe, in their respective contributions on genomic conflict, the evolution of great apes, and the deep history of the human species. Wrangham and Cunliffe situate their arguments in the context of two contrasting images of humanity conveyed by figures of the eighteenth-century Enlightenment philosophy. For Jean-Jacques Rousseau, the natural state of humans was peaceful and benign, encapsulated in the idea of the 'noble savage'.

For Thomas Hobbes, humans and human societies were intrinsically violent. Cunliffe's 40,000-year survey of head wounds and weaponry steer him towards a Hobbesian conclusion, whereas Wrangham is less certain. In his study of human societies in the broader context of great apes, he sees strengths and weaknesses in both positions, and furthermore a variation in the placidity and violence of different primate species. Wrangham is persuaded that violence leading to death amongst humans and certain other great apes can be explained in adaptive terms, though there are important constraints on how it confers adaptive success. In great ape communities, lethal violence involves males killing males, and the killers operating in large enough groups to avoid putting their own lives at risk.

While interpersonal violence between males, in the case both of humans and chimps, may find some adaptive rationale, Haig draws our attention to a distinct arena of conflict. This arena lies not between individuals, but within them. This possibility is most simply exemplified by the case of one individual weighing up the costs and benefits of laying down his life to save three of his half-brothers. For the sake of some of his chromosomes and the genes they carry, he should certainly lay down his life. Other chromosomes within the same body are better served by keeping gallantry under control. Haig's essay explores the many ramifications of this seeming paradox. He considers various evolutionary scenarios in which different genes within the same individual may be favoured by different actions of the host organism. The distinct evolutionary strategies of maternally and paternally inherited genes routinely come into conflict within the individual who carries them, so for example they emphasize the development of different parts of the brain. This focus upon sexual difference brings us to a second theme, perhaps the most recurrent theme of the volume.

Conflict and men

Cunliffe argues that humans clearly have evolved to be gregarious, on the one hand, and aggressive and competitive, on the other. Indeed, it is the formation of communities, according to Wrangham, that provides the evolutionary rationale for lethal violence. Violent conflict between species is a long-recognized aspect of the Darwinian struggle

for survival. It sometimes seems that such conflict within species is a very human attribute, but Wrangham draws our attention to the wide range of species that do attack and kill their own. He infers that killing a member of one's own species is a recurrent attribute of competition between rival communities of a single species. Following this argument, chimpanzees kill rivals whenever they can do so safely, because killing raises the likelihood of winning future battles. Among chimpanzees more than 90 per cent of adult victims of lethal inter-community aggression are male.

Many of the essays highlight the connection between violent conflict and men. In the background of this connection is Baron-Cohen's essay on the average male and female mind. While he stresses that men and women are widely dispersed in the manner they think and act, he observes a central tendency in each sex towards certain attributes of behaviour, attributes that can sometimes occur in extreme forms. From a wide range of observational studies of men and women ranging from maturity to a day old, and indeed some studies of foetuses, Baron-Cohen infers that the average male displays more 'direct' aggression, such as pushing, hitting and punching, than the average female, also noting that male-on-male homicide in contemporary society is thirty to forty times more frequent that female-on-female homicide. This is not to say that women are complete strangers to antipathy, but he argues that typical aggression between females takes more indirect forms, such as gossip, exclusion and cutting remarks. To quote Adie's essay on observing conflict, 'The history of war and insurrection, crime and domestic trouble, scenes of violence . . . is the story of man'.

There are certain recurrent rules of lethal conflict between males which apply in numerous species, including our own. An example is the rule of overwhelming advantage. Predatory killing proceeds from such a position of overwhelming advantage, in which the killing can be accomplished without placing the killers at significant risk. This is certainly true of chimp attacks, and of confrontations between a number of human societies. Within our own species, however, particularly in the context of stratified, hierarchical societies, that rule is transgressed in a different style of conflict, characterized by display, theatricality and performance.

Theatres of conflict

Adie recalls from first hand the launch of a cruise missile from a weapons platform off the coast of Serbia, in which the image of the launch was pasted up onto the front page of a New York newspaper before the missile had actually reached its target. This is probably the most extreme example of theatricality and performance among any of the contributions. That theme is explored by several essays, and a style of conflict that becomes distinct from its ancestral form. In exploring Middle Eastern conflict, Anderson emphasizes the dynamic between 'theatre' and 'audience', by observing that 'Israel is the battlefield but the war is in America. For Islamists like Bin Laden, America may be the battlefield but the war is in the Arabian peninsula.'

Within Europe, Cunliffe traces the roots of such theatricality of conflict back to the Bronze Age warriors of the third to second millennium BC. He sees emerging evidence for ceremonial display and simulated aggression, and a great diversity of weapons for hand-to-hand fighting and body armour. In early narratives drawing on this period the aggression of the opponents is contained by agreed rules and the contest is played out by the appointed champions in full view of all. Often, at the end of the day, everyone packed up and went home, but on some occasions passions would rise, the constraints would give and the rival fans would invade the pitch. Wrangham notes a number of unusual 'modern' traits of the soldier having a lot in common with the actor (detachment, illusion, etc.). The most unusual feature of all, in the context of comparisons with other species, is that the aggressor may risk his own life.

Wrangham connects this surprising development in conflictual strategy with a professional army and hierarchical communities in which orders can be given to override individual intuition. Both he and Cunliffe divide human communities into non-hierarchical and hierarchical forms, in which the former, including the Amazonian Yanamamö, the Maring and Dugum Dani from New Guinea, and the Andaman Islanders follow a more widespread pattern of intergroup violence, while hierarchical state societies, from the Bronze Age through to the present day, enact conflict in a theatrical manner, in which many of the key players are there as observers and in some

cases controllers. Adie reflects on the various paradoxes of her central role in that collective observation, exploring the powerful impact on the process of observation on the structure of the performance itself.

An inevitable feature of theatres of conflict is the distinction between conflict on stage and off stage, between overt and covert action. A number of authors comment that the bloodiest and costliest conflict may be off stage. This applies locally: Adie distinguishes between the violence which for pragmatic and operational reasons remains unseen, and that which is suited to spectacle. It also applies globally, brought home by Anderson's comment that in the rank order of bloodiest twentieth-century conflicts, the principal theatre of global conflict, the Middle East, only appears at number 15. A recurrent theme of the essays is that the most lethal conflicts are by no means the most conspicuous. In the less lethal, but socially fundamental arena of labour conflict, Brown draws a parallel distinction between overt and covert conflict, again stressing the considerable suffering associated with the latter form, hidden from view.

Otherness and the 'nation'

Some manifestation of the 'other' is implicit in many forms of conflict, and those essays exploring contemporary societies explore a range of connections between conflict and the nation state, not all of which are self-evident. Anderson traces the birth of the inter-state system back to the 1648 Peace of Westphalia, its growth through the French Revolution, and what might be perceived as its Old Age in the breakup of the Ottoman Empire and the turbulent histories of the modern states of the Middle East. She explores the various conflicts between elective identities and national boundaries, single and divided loyalties, in a manner that would imply the world might be ready for an entirely new means of building communities. The often surprising power of national loyalties nonetheless recurs in the contemporary papers. Adie notes the considerable power of national allegiance in shaping and marketing wartime news. Brown alludes to the gulf that arose between the power of an international market, and unions that remained framed within national loyalties as a gulf that consumed the

effectiveness of overt trade union action. National loyalties prevailed in spite of their economic disadvantage. To quote his contribution: 'The problem for trade unions is that, despite endless attempts, they are unable to organize collective action across national boundaries. Worker solidarity effectively stops at the frontier.'

Equilibrium, violence and life

We opened this introduction with the observation that equilibrium lies at the heart of many of our models of the way the world works, an observation that is challenged in a variety of ways in the following essays. Nowhere is that challenge more expansive than in Davies' consideration of dynamics within the universe. He highlights disequilibrium and infrequent events as key drivers at the largest scale of all, a dynamic that impacts upon phenomena at a range of smaller scales nested within, including the existence of life itself. He describes the take-home message of his contribution in the following way: 'violence has a creative as well as a destructive aspect, and that without exceedingly energetic and powerful processes that seem so awesome to human beings, life would be impossible'.

He has thus melded a portrayal of awesome devastation and violence with one of creativity and future life. In a volume that repeatedly revisits tension, suffering and destruction, there is much forward-looking and affirmation of the positive in these essays. A number conclude on such a positive note. Baron-Cohen argues that we should not treat the central tendencies of the male and female minds as constraints in individual choices and actions, and that knowledge of these differences can give us a much deeper understanding of routinely marginalized individuals. Adie highlights the growing sophistication of the global audience of conflict, implying a challenge to the parallel growth in sophistication of technologies of violence, assisted by rigorous observation. Brown emphasizes the continuing importance of democratic processes to challenge the iniquities of covert conflict. In other words, those authors immersed in the present and future of human societies hold out hope for enabled, sophisticated human agents to challenge and control the fundamental themes of conflict that pervade our world. It has to be said that the two authors looking back into the deeper

human past conclude on more sanguine notes, with which we end this brief introduction.

Wrangham ends with the observation: 'If we take humans to be fundamentally similar to chimpanzees in their attitude to violence, we should be highly alert to the dangers inherent in major acquisitions of power. The biological intuition warns us that men will continue to look for opportunities to massacre their rivals, and that we should never drop our guard. The bad news is that we have to work to stop men from uniting to kill their rivals. The good news is that if we maintain balances of power, we can expect peace.'

Cunliffe concludes his essay with the words: 'If our all-too-brief look at the roots and development of warfare has taught us anything, it is how timeless and transglobal are the confrontations forced on us by the deeply embedded instincts that we aggressive humans have acquired through natural selection. Only a delicate tissue of social constraint, carefully nurtured, prevents our lives from becoming "nasty, brutish and short".'

1 Intrapersonal conflict

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In his *Principles of Psychology*, William James discussed five types of decisions. Most decisions he noted are decisions without effort, but in the

> *final type* of decision, the feeling that the evidence is all in, and that reason has balanced the books, may be either present or absent. But in either case we feel, in deciding, as if we ourselves by our own willful act inclined the beam: . . . If examined closely, its chief difference from the former cases appears to be that in those cases the mind at the moment of deciding on the triumphant alternative dropped the other one wholly or nearly out of sight, whereas here both alternatives are steadily held in view, and in the very act of murdering the vanquished possibility the chooser realizes how much in that instant he is making himself lose. It is deliberately driving a thorn into one's flesh; and the sense of *inward effort* with which the act is accompanied is an element which sets the fifth type of decision in strong contrast with the previous four varieties, and makes of it an altogether peculiar sort of mental phenomenon.
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> (p. 1141)

After consideration of the kinds of decisions that are made with, and without, effort, James concluded that 'effort complicates volition . . . whenever a rarer and more ideal impulse is called upon to neutralize others of a more instinctive and habitual kind' (p. 1154).

Religious, literary and psychoanalytic texts abound with similar discussions of conflicts between our higher and lower natures, between passion and reason, between selfishness and concern for others, between immediate gratification and pursuit of long-term goals. We all are familiar with being caught on the horns of a dilemma – of wanting to make a phone-call, and simultaneously not wanting to make the call,

of being torn between temptation and conscience – but evolutionary biology has had little to say on why our subjective experience should be organized in this manner. At first sight, the idea that we can be at war with ourselves appears paradoxical. If we are products of natural selection, superbly designed to maximize inclusive fitness, why do we often find it hard to make decisions and stick to them? A fitness-maximizing computer would simply calculate the expected utilities of the different alternatives and then choose the alternative with the highest score. Why should some kinds of decisions be more difficult to make than others? Is the subjective experience of effort merely a measure of the computational complexity of a problem, or is something else going on?

For William James, 'The existence of the effort as a phenomenal fact in our consciousness cannot of course be doubted or denied. Its significance, on the other hand, is a matter about which the gravest difference of opinion prevails. Questions as momentous as that of the very existence of spiritual causality, as vast as that of universal predestination or free-will, depend on its interpretation' (p. 1142). My aim in this essay is not to address such momentous questions, nor to shed light on really difficult questions such as how and why we have subjective experiences. Rather, it is to ask how one might begin to reconcile non-biologists' perception of the ubiquity of internal conflict with biologists' view of the mind as an adaptive product of natural selection. Internal conflict often *seems* maladaptive; consuming time, energy and repose. If so, why does it persist?

Three types of hypothesis could potentially resolve the conundrum of conflict within an adapted mind. First, one might argue that internal conflict arises from constraints on the perfection of adaptation; that evolved mechanisms work well on average but occasionally malfunction. We would be better off without internal conflict, but we are stuck with it. Second, one might argue that internal conflict is in some sense illusory; that the 'contending parties' have the same ultimate ends; and that natural selection has simply adopted an adversarial system as the best mechanism of arriving at useful truths. Finally, one might argue that internal conflict is 'real' and reflects a disagreement over ultimate ends between different agents that contribute to mental

activity. I will reveal my hand at the outset. I believe that all three kinds of explanations, and their complex interactions, will play a role in an eventual understanding of internal conflict.

First, let me briefly consider non-adaptive interpretations. The precision of achievable adaptation is limited because natural selection is retrospective, fitting us to the past rather than the current environment; because the adaptive response to environmental change is limited by the pool of available variation and by time-lags until the origin of appropriate new mutations; and because selection is blind to very weak selective forces (i.e., chance plays a large role in who survives and reproduces when differences in adaptedness are slight). Some internal conflicts may merely reflect the imprecision of adaptation. An analogy can be made to the 'system conflicts' that occasionally cause my computer to crash: multiple functional programs are running simultaneously and occasionally make contradictory or ambiguous demands on the operating system; neither programmers nor natural selection have been able to eliminate all opportunities for malfunction. Our genomes evolve by a series of minor revisions to an old text just as the operating systems of computers evolve by the addition of new functionalities to old code. The analogy is, of course, limited. My computer does not, in fact, run multiple programs simultaneously. Instead, it is a serial machine that has only a single program running in its central processor at any particular moment, but switches rapidly among programs. Our brains, by contrast, are massively parallel processors with different subsystems simultaneously processing different kinds of data. Somehow this dispersed neural activity has to be integrated in coming to a decision. Perhaps 'conflict' could arise from imperfections in the process of integration.

Without doubt, our current environment presents us with novel challenges for which we lack specific adaptations. There were probably no opportunities in our evolutionary past to put aside resources for ten or twenty years, and then recover them with interest. Thus, retirement planning is a recent innovation for which we are unlikely to have evolved dedicated mechanisms. Instead, we employ general-purpose problem-solving machinery to make plans that come into conflict with more hard-wired responses. My rational resolution to save is thwarted