HISTORY AND CHANGE

HISTORIA Y CAMBIO

Felipe Fernández-Armesto

Department of History College of Arts and Letters University of Notre Dame Notre Dame, Indiana 46556 USA

Email: Felipe.Fernandez-Armesto@nd.edu

RESUMEN: El objetivo de este trabajo es presentar una reflexión sobre el cambio en la historia, en particular, el cambio en un área de trabajo del historiador tan particular como es la cultura. Para ello se tendrán en cuenta, en primer lugar, aspectos relacionados con el desarrollo de la cultura no-humana, tomados de áreas como la primatología o la zoología cultural, para después analizar el ritmo cada vez más frenético de transformaciones que experimenta nuestra cultura contemporánea.

PALABRAS CLAVE: Cambio; cultura; cambio cultural; primatología.

I want to broach what I contend are the biggest questions for historians: why do cultural changes happen? And why have they tended to accelerate? Underlying these conclusions, problems lurks another question, so fundamental to historians' work that we never even ask it. Why does change happen at all? Progress, after all, is only an instance of change, or perhaps a term that attempts an overall characterisation of it. But it seems premature to question it before we have satisfied ourselves that we understand the bigger phenomenon of which it is a part or an intended description. Change is a difficult subject to address, because everything we say about it is observed from the inside, trapped by a form of uncertainty principle. Change grips us as we try to grasp it. Philosophers who attempted to explain it in antiquity –from the Upanishads to the Eleatics and beyond- commonly fell back on the counter-intuitive claim that it is illusory, because it seems inexplicable. A changed state of affairs, they reckoned, presupposes a prior state unchanged with respect to it. Alternatively, the solution associated with Heraclitus, that change is the essence of nature -that flux, if you like, is the default state of the universe- satisfies observation

but, as Plato pointed out in the *Theaetetus*, defies logic¹.

Healing for such disputes is beyond historians' practice.

But it may still be worthwhile asking why change happens

ABSTRACT: The aim of this paper is to present an account on the idea of change in history, in particular, the possibility of change in such a peculiar object of inquiry for the historian as culture. This work will consider various elements associated with the development of non-human culture, taken from areas such as primatology and cultural zoology, before analysing the increasingly frantic pace of transformations experienced by contemporary culture.

KEY WORDS: Change; culture; cultural change; primatology.

in the historian's specific province of culture. Hitherto, we have taken this for granted and thought it intractable to or unworthy of enquiry. I believe we can no longer be so insouciant. Primatology and cultural zoology have given us new standards of comparison, which make the question ineluctable and even urgent.

The novelty of the disclosures of these disciplines is apparent to me when I recall the chimpanzees' tea party, which, like many other Londoners, I attended occasionally as a child. It was a daily event at the zoo in the "fifties, now banned as politically incorrect and injurious to chimpanzees" dignity. The chimps sat at a table laden with teatime paraphernalia and foodstuffs, where they entertained the crowd by making as much mess as possible. According to one of the world's leading experts on chimpanzee behaviour, they probably deliberately hammed up the performance for the spectators' delectation (Waal, 2002). We onlookers, however, thought it funny -though the younger of us may not have expressed it thus-because we thought that humans were uniquely cultural animals, and that chimps' efforts to imitate our table manners were vitiated by a fundamental inability to understand what manners were. Now the joke is on us, because half a century of research has taught us that we are not alone



in possessing culture, and that chimpanzees are among a number of non-human cultural creatures: practitioners, that is, of behaviours that are socially but not practically functional and are neither instinctive nor advantageous in an evolutionary sense; rather, they are transmitted by tradition and acquired by learning (Waal, 2001; Waal y Tyack, 2003; Hurley y Nudds, 2006; Pryor y Norris, 1991; Mann, 2000). It is now apparent, moreover, that chimpanzees have food-distribution practices of their own –I should not hesitate to call them rites– which may not be as mannered as those of our tea-tables but which are nonetheless of broadly the same ilk.

The evidence that some non-human animals have culture began to pile up in the early 1950s, when investigators in Japan observed a now famous macague monkey instructing her tribe in her newly discovered technique of washing the dirt off sweet potatoes before eating. Subsequent generations learned how to do it and continue the tradition -with some modifications- to this day. Proof that the practice is a rite rather than a crudely useful function is that the monkeys will always do the washing, even if humans deliver the vegetables ready-cleaned, as if in a supermarket (Waal, 2002, 51). Since the discovery of macague culture, innumerable cultural practices have been detected in many species of apes and monkeys and also, according to investigators in the field, in elephants, dolphins and rats. In some cases, there is evidence of cultural divergence among communities of a single species. In some baboon tribes, for instance, males practise monogamy; in others, they have harems. Different chimpanzee communities have different technologies; some hunt guite intensively, whereas others do not (Stanford, 1998). In different places, orangutans play different games. Yet it remains true to say that cultural divergence -which is an index of the scale and rate of cultural change- is very small in non-human species, compared with the immense diversity of human cultures. It is remarkable that there are any cultural differences at all between communities of particular species of apes and monkeys, but they oscillate within a narrow band. Dolphin societies and those of rats and elephants exhibit the same or scarcely varying structures, as far as we can tell at present, wherever they are.

Every scientifically testable form of human uniqueness ever alleged has turned out, in the light of present knowledge, to be invalid. Humans are not uniquely social creatures, any more than uniquely tool-making, or languageusing, or self-aware, or -probably- morally conscious. All creatures are unique, but human uniqueness is not of a unique kind. We differ from other animals only in degree. But in this respect, the difference of degree is marked: other animals' cultures are more or less static, whereas those of humans are highly mutable, even volatile. The first big question for the historian therefore is, why do human cultures, alone of those of cultural animals, change so much? Why are we the only culturally mutable, indeed volatile species?

To express the problem another way, it would be otiose to attempt to write histories of the societies of any cultural creatures except humans. Even chimpanzees, who are in just about every respect the creatures most closely comparable to humans, hardly have any history. They have politics, which the great analyst of chimp political science, Frans de Waal, has characterised as machiavellian (Waal, 1982, 19). But though one alpha male from time to time successfully displaces another, the nature of authority in chimpanzee communities never changes. It would be rash to say that it never could change. One of the most curious episodes observed by Jane Goodall's team of researchers in Tanzania was of a chimp low down the ranking among the males of his tribe who for a time successfully challenged the leaders' dominance by rolling packing cases, appropriated from the primatologists' camp, across his rivals' favoured tracks through the forest. At first, the incumbents were inclined to defer to him in their puzzlement; but his coup did not last long and no permanent revolution occurred in the distribution of power or in the way in which chimpanzee leaders emerge. Nonetheless, it is tempting to see in this incident evidence both of how limited the range of chimpanzee political culture is compared to that of humans and of how the distance might be narrowed in the future (Nishida, 1990; Wrangham, 1994). We no longer have alpha males running our societies as, presumably, our hominid ancestors once did. We have replaced succession by challenge and combat, which still prevails among chimpanzees, with other means of selecting leaders, by charisma, sacrality, heredity, sagacity, demagogy. But among chimpanzees it is already possible for an individual to attain temporary ascendancy by an innovative strategy. Over time, new kinds of political change could become systematic in chimpanzee societies, as in our own. I hope to suggest a little later why this has not yet happened among chimps, and how circumstances could favour it in future.

Meanwhile, we can accept that humans are the only species with history. But this form of human distinctiveness has accrued over time. It is not "natural" to humans in the sense of having been a feature of human life since homo sapiens first emerged. On the contrary, as far as we can tell, for most of our existence, our species has been culturally stable –in key respects, as unchanging as other species. The earliest divergences we can attribute to human cultures arose as a result of the migration of homo sapiens out of our native environment in east Africa, about 100,000 years ago. Those divergences were consequences of the need to adapt to new and previously unexperienced environments, which produced, for instance, variants in dress and foraging techniques, and of the sheer distances that arose between increasingly sundered communities. I suspect that separation by distance must have stimulated linguistic divergence, which -to judge from the huge differences in language today between contiguous peoples in Australia and New Guinea, who in other respects resemble each other closely in culture- must have been an early form of societies' mutual differentiation. Even so, the differences between widely dispersed peoples in the paleolithic era was small, by recent standards, and not much greater than that of many other primates. All human communities practised essentially the same kind of foraging economy. All used similar toolkits and weapons. Most seem to have practised one or more of a very limited range of religions, focussed on shamanism or on the cult of a deity usually designated as an "Earth-mother" figure. If art is the mirror of society, the rate of change in paleolithic cultures was minimal. The recent discovery of cave paintings at Chauvet, some 10,000 years older than previously known examples of the genre, reveals startling continuity in subjects, techniques and treatment (Clottes, 2001).

Again, the inescapable inference is that social and cultural change is an historical subject, susceptible of historical explanation. The peculiar mutability of human society has its origins not in "human nature" –whatever that is– but in the circumstances of the relatively recent past. The increasing pace of change, moreover, is not an inherent property of change, but an historical phenomenon. It has occurred –for the most part– within a relatively well known and relatively well documented period, which can be said

to have coincided roughly with the holocene, and to have quickened spectacularly in the last few centuries.

The need to explain the origins of change and its recent and current accelerations is acute precisely because the pace of change is so fast today: so fast that even within living memory the world seems to have changed unrecognisably, inducing "future shock", fear, bewilderment and resentment. When people do not understand what is happening to them, the panic. Grandes peurs lash society like a flagellant's scourge. Intellectuals take refuge in "postmodern" strategies: indifference, anomie, moral relativism and scientific indeterminacy, the embrace of chaos, je m'enfoutisme. In reaction against uncertainty, electorates succumb to noisy little men and glib solutions. Religions transmute into dogmatisms and fundamentalisms. We can best confront or cope with these reactions if we can provide a coherent explanation of the rapidity and reach of change in our world.

Two ways of documenting -or at least of illustrating or evoking the pace of change in our time- appeal to me. We can begin by summoning a series of images, so familiar that they need only be mentioned to be visible to the mind's eye, which capture moments of vividly perceived change, when the world in which people of my generation grew up became unrecognisable. Some of the most potent images that form today's common stock document environmental change. No one attentive to world affairs today can forget images of the Greenland ice melting into the sea, the Amazonian rainforest retreating in flames, new viruses inflicting unpredictable plagues upon the world, desertification stranding rusting hulks in the salt wastes that were once the Aral Sea. These are peculiarly alarming images of our time not so much, I think, because of the menace they illustrate for the future, though they certainly do that, as for the way they make vivid the unprecedented nature of change in the recent past. Hitherto, we always thought of environmental change as typically slow -much slower than cultural change. Now the two realms are so thoroughly interpenetrated that the environment seems as unstable as every other sphere of human impact.

In politics, images of the fall of the Berlin Wall recall the surprise of most of those of us who saw it happen. Although some historians and political scientists anticipated the soviet system's collapse (Dallin y Lapidus, 1995),





people overestimated its durability. Almost everyone who witnessed the events of 1989-92 in central and eastern Europe was astounded at the scale and suddenness of the end of the Cold War, and the dismantling of a structure which -for all its menace- conveved the comfort of familiarity and, according to the consensus of the experts, preserved the peace of the world. Most people, I suspect, would select the 9/11 felling of the World Trade Center in New York as another such moment, which reconfigured world politics along with the skyline of the city. The effects of the event have certainly been far-reaching. They contributed to the onset of a new, aggressive era in US foreign policy and to the forfeiture or long postponement of the world's opportunity to create a new order, based on international co-operation and global governance, after the end of the Cold War. But for me the images of destruction and corruption generated by the Iraq War are far more disturbing because they disclose a world I -with all my scepticism and world-weariness- had never previously detected or foreseen. I had naively believed that one of the great merits of democracies is that it is hard to coax them into war, and that they therefore tended to make the world a better and safer place. The Iraq imbroglio has shown us how easy it is for irresponsible governments to start wars even in democracies.

Images like these from the political arena are matched by others from the world of economics: images of panic in the bourses and people on the streets, whenever the frightening lurches typical of modern economies fell currencies, break banks, bust businesses and slash stocks. On the whole, however, although these pressures generate far-reaching psychological strains and contribute to the neuroses and psychoses of modern life, I think it is fair to say that economies are surprisingly resilient. Cultural changes, on the other hand, are much harder for society to cope with because when they are deep, rapid and extensive they subvert people's identities and challenge their sense of their place in the world. The current scale of global migration, and its effects on countries with net intakes of migrants, is a prime example. I welcome its enriching effects, but can understand why many people find it disturbing to see their neighbourhoods or even their hometowns changed -the look of buildings and gardens transformed, the shops restocked, the sound of the streets retuned, the places of worship re-dedicated, the aroma of the food revised. More surprising and more shocking is

the fact that cultures can effect self-transmutations as thorough and disturbing, without any outside aid, as the changes migrants make. I call to mind the scenes of grieving that the death of the former Princess of Wales, Diana Spencer, provoked in England. It suddenly became obvious that the England of my youth, to which my father had devoted a book (Assia, 1943), the England distinguished by reserve and the cult of the stiff upper lip, had vanished, not because foreigners corroded the culture, but because the English themselves abandoned it (Fernández-Armesto, 2000). The stiff upper lip went wobbly and Di's millions of mourners wallowed in what the teachers of my childhood years would have condemned as exhibitionism and emotional slacking.

This is perhaps an extreme case of a culture unrecognisably self-transformed but there are many others. I have also followed in my own experience the self-transformation of Spaniards since the Franco era. Here, of course, the political context has changed, but the cultural changes are much more thorough than and in some ways independent of those of politics, as Spain has abandoned a vocation to be "different" and has self-consciously remodelled cultural practices to conform to western European models. Spaniards now tolerate pornography, sexual permissiveness and divorce. They drink and smoke less. They talk their regional languages unselfconsciously. They cross the street when they like. Their manners are more relaxed. In some parts of the country they have changed the horarium of the working day. They dress casually -at least, more casually than before (Hooper, 2003; Tremlett, 2006). Even in countries which have become exporters of labour, cultural "westernisation" has had similar effects. Changes in sexual mores are particularly unsettling because they coincide with generation gaps, challenge family solidarity, and have something of the force of violated taboos. In parts of the West, the rapidity with which homosexual alliances have achieved equality or near-equality of esteem with traditional marriage amounts, in effect, to a new morality. In general, the effects of pluralism, which are, I think, inestimably beneficial, are also unsettling. I think of the widely reproduced photographs of the pope at prayer in Aya Sophia. Catholics of my generation could hardly behold such images without thinking that the world they now inhabit is very different from the one in which they were catechised. Even a young Rip van Winkle would awake today, after a short nap, to a surprising world and a

dislocating experience. The *plus ça change* adage no longer applies: if I can be excused a necessarily paradoxical way of putting it, things can change so much that they are no longer their former selves.

My second way of evoking the pace of contemporary change is to refer to its effect on historians. Historical writing narrates the past but reflects the present. In my time in the profession, the most conspicuous change has been what I call the collapse of the longue durée. When I was a student, gradualism was the voque. My contemporaries and I were taught to see the origins of changes in the grinding structures of competing kinds of determinism. Now it is accepted that great events can arise from small causes and that everything can be explained or is even best explained in its immediate context, or, so to say, that history as a system resembles the weather, in which the flap of a butterfly's wings can raise a storm (Howard, 1984). When we seek to explain the decline and fall of the Roman Empire, for instance, we do not return, like Gibbon, to the Antonine age, when the empire was doing rather well, but confine ourselves to the circumstances of the barbarian invasions of the late fourth and fifth centuries. When we want to understand the English Civil War, we no longer appeal, as Macaulay did, to "the Whig interpretation" or to supposed long continuities of England's traditions of freedom, stretching back to the Germanic woods, much less to the rise of the bourgeoisie, but concentrate on the few years preceding the outbreak of hostilities and on the effects of the Scottish war of 1638. When we explore the causes of the French Revolution, we no longer reach back, as Tocqueville did, to the era of Louis XIV, but allege a relatively brief crisis that began with the American Revolutionary War. When we discuss the origins of the First World War, we no longer do as Alberti did, and cite the defects of the nineteenthcentury diplomatic system, which actually kept the peace, but look at the breakdown of that system in the years preceding the war, or even, in an extreme case, at the impetus of the railway timetables of August, 1914. And so on. The examples are innumerable. In other words, as the pace of change in our own times has increased, the willingness of historians to believe in long continuities in the past has declined.

As far as I know, no explanation for the increasing pace of change is available, other than the assumption that

change is cumulative -which is no explanation, but merely an alternative way of describing the phenomenon we have to explain. It is tempting to look for an explanation to the two influences that have proved most reliable in explaining other kinds of change and all behaviourial change -including change properly classified as culturalin non-human species: evolution and environment². But neither of these is satisfactory in accounting for the frequency and volatility of short-term cultural change in humans. The critical gap between human and non-human cultural species demands a further, peculiarly human explanation. The environment, in any case, is relatively inert, compared with human culture, and although there are occasional cases, such as large-scale volcanic eruptions or the sudden evolution of a new and powerful microorganism, when the rhythms of environmental and cultural change coincide, these are too infrequent to account for all the lurches of culture. Evolution, too, seems generally too slow-working a mechanism to meet the case. Even the syncopations of "punctuated equilibrium" are too slow and too rare. We can measure the pace of human evolutionary divergence in our DNA: the results do not stand comparison with the cultural divergence historians record. Although our species encompasses a relatively wide range of DNA, the variation is infinitesimal, compared with the enormous diversity of our cultures. The only serious attempt to explain cultural change in evolutionary terms -the theory of memes- is valueless, not only because there is no evidence for the existence of memes, in the sense of evolved "units" of culture, or of any mechanism by which evolution could select them for transmission to other cultures, but also because such evidence as we have supports an incompatible conclusion: the most adaptive cultures are not the fittest for survival, but the most prone to catastrophe (Dawkins, 1976). Successful survival cannot therefore account for the replication of memes. A system which, independently of human choice, imposed cultures equipped to survive would select for foraging. Cultures which have stuck to that strategy have survived for scores of millennia, whereas those that have substituted sedentarism, urbanisation, agriculture, and all the other adaptations we associate with "civilisation" are one with Nineveh and Tyre. Our adaptations bear the fingerprints of free will precisely because, so far, just about all of them have been unsuccessful (Fernández-Armesto, 2001). Their increasing pace looks like a measure of increasing desperation.

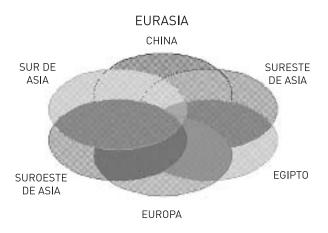


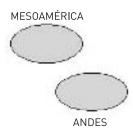


We can at least be confident in asserting that although evolution and the environment create the framework of contingencies within which everything in history happens, and that some features of cultures may be explicable in evolutionary and environmental terms, specific cultural changes do happen independently of evolution and environment. For culture as a projection of the human mind, and cultural changes originate in the realm of ideas. I do not mean to assert that the mind -or, to focus on exactly what I mean by "mind" in the present context, the capacity for generating ideas— is unaffected by evolution. As far as we can tell, our capacity for thought is itself a product of evolution, and if it is true -as we suppose, on the basis of our present knowledge- that humans have an exceptional capacity for generating ideas, evolution should have played some part in endowing us with it. As a working hypothesis, I propose that ideas are a by-product of a well equipped imagination, which in turn is a product of a well developed power of anticipation. Evolution selects for anticipation especially in the case of hunting animals, who need to be able to anticipate the behaviour both of prey and of rival predators, often in environments which occlude the senses. Homo sapiens needs a relatively rich imagination to make up for the feebleness of body, slowness of gait and weakness of sight and smell that disadvantage us as hunters. This, I suspect, is why humans have so many more ideas than other primates, who resemble us so closely in so many other respects, but who rarely or never eat meat and who typically do not go hunting. Now that chimpanzee

communities have taken this step and have embraced the ecology of hunters, I think it is unfanciful to speculate that their trajectory of change could eventually draw closer to ours, as hunting becomes more important in their economies, evolution responds accordingly, and chimps get ever more imaginative.

However that may be, the link between ideas and cultural change is unproblematic. We observe our world. We imagine it differently. We work to realise our imagined world. But this still leaves the increasing pace of cultural change unexplained. If I am right so far, ideas need to multiply in order for cultural change to accelerate. The best attested reason for the multiplication of ideas is the fertilising effect of exchange. Ideas multiply as the result of dialogue. That is why we are here, talking to one another. Cultures change, in part, at least, because unfamiliar ideas about how to do things impinge from outside. For example, the work of Jared Diamond has made familiar the notion that Eurasia has been an arena of faster change than other parts of the world because its geography favours intense exchanges of culture between its indigenous civilisations (Diamond, 1997, 354-75). Isolation retards change, exchange stimulates it. As Diamond points out, New Guinea has a history of farming and sedentary life at least as longstanding as those of other Asian civilisations, and probably longer than those of Africa, Europe and the Americas, but isolation slowed or checked subsequent development. We can represent the world-wide difference in the mutual accessibility of civilisations diagrammatically:









This helps us understand why for so much of the human past, cultural change was so slow -barely exceeding, as we have seen- the rate of change in other cultural species. The story of our past has been, for most of the time, one of divergence, as human communities migrated across the globe and in many cases lost touch with one another. Such cultural changes as occurred during the period of divergence are largely explicable in terms of adaptations to the different environments human migrants encountered. Subsequently, at first very gradually or fitfully, as sundered communities re-established contact, ideas oscillated with increasing frequency across newly established frontiers, generating or contributing to the generation of accelerating change (Fernández-Armesto, 2006). Among the changes were projects for extending the reach of exploration and exchange, and technologies to effect them: striking examples of reimaginings of the world, realised in practice. The beginning of a new, and so far relatively short period of convergence therefore coincided with a quickening of change of all kinds. The most marked feature of the very recent past -which we call globalisation- is, from one point of view, intensified exchange. To put it crudely: change grows out of exchange. The more exchange, the more change. Intercultural contacts do not just re-shake the kaleidoscope of the world; they also multiply the crystals it contains.

Is the quickening of the pace of change limitless? Historians properly base their predictions of the future on the experience of the past and tend to be surprised when the normalcy of the world fails to restore itself. If my train of thought is valid so far, we should expect change to slow and even cease. If we ever achieve a truly globalised world, in which we share a common, globalised culture, we shall

have reverted to a form of isolation more extreme than any our ancestors experienced. We shall be alone in the universe, with no other cultures -except those of putative beings in other galaxies- with which to communicate. There will be no inter-cultural exchange to spawn other kinds of innovation. In the meantime, however, we shall continue to live in "interesting times" and suffer the corresponding curse. We have to find ways of living at ease in a disturbingly alchemical world of rapid, total transmutations of culture. In particular, we have to be on our guard against the forms of political and religious extremism that thrive in revolutionary circumstances. One strategy is to emphasise that there are still continuities to cling to, and that some features of tradition can endure even hectic change. Jeremy Black remarked that change is now so pervasive that we should be more surprised that any continuities survive, rather than that the transformations we observe are so sweeping. In part, I suspect, those continuities remain possible as a paradoxical effect of change. For change tends to increase complexity. Indeed, change is inseparable from and multiplies the connective elements in the system: the world of today is connected by innumerable links between its dazzlingly varied elements. In some instances, complex systems are highly fragile, because their parts are interdependent, and failure in one area can cause total arrest; but in general they tend to be surprisingly robust, especially if they are undesigned, with far more links than are strictly necessary, because some links can perish without jeopardising the continuity of functions. That is the kind of system we live in now. Its lurches are disturbing, but it also conveys a kind of comfort. For its very momentum, its very mutability, are becoming its increasingly familiar features. If they were to cease that change -the last change- would be the most unsettling of all.



NOTES

- 1 Modern philosophy seems to have concentrated entirely on how we experience change (Bergson, 1946), how we define it (Davidson, 1980) or whether it can be said to constitute process (Whitehead, 1929).
- 2 For a representative array of attempts see Pomper 2003.

BIBLIOGRAPHY

- Assia, Augusto [Felipe Fernández Armesto] (1943): Los ingleses en su isla, Barce-Iona, Mercedes.
- Bergson, Henri (1946): The Creative Mind, New York, Philosophical Library.
- Clottes, J. (ed.) (2001): La Grotte Chauvet: l'art des origines, Paris, Seuil.
- Dallin, Alexander y Lapidus, G. (eds.) (1995): The Soviet System: From Crisis to Collapse, Boulder, Oxford: Westview Press.
- Davison, Donald (1980): Essays in Action and Events, USA, Oxford University Press.
- Dawkins, Richard (1976): The Selfish Gene, Oxford, Oxford University Press.
- Diamond, Jared M. (1997): Guns, Germs and Steel, London, W.W. Norton.
- Fernandez-Armesto, Felipe (ed.) (2000): The Folio Society History of England, xii, pp. 509-47.
- Fernández-Armesto, Felipe (2001): Civilizations, London, MacMillan.
- Fernández-Armesto, Felipe (2006): Pathfinders: a Global History of Exploration, Oxford, Oxford University Press.
- Hooper, John (2003): The New Spaniards, London, Penguin.

- Howard, Michael (1984): The Causes of Wars and Other Essays, Cambridge, Harvard University Press.
- Hurley, Susan y M. Nudds (eds.) (2006): Rational Animals?, Oxford, Oxford University Press.
- Mann, Janet et al. (eds.) (2000): Cetacean Societies: Field Studies of Dolphins and Whales, Chicago, University of Chicago Press.
- Nishida, T. (ed.) (1990): The Chimpanzees of the Mahale Mountains: Sexual and Life History Strategies. Tokyo, University of Tokyo Press.
- Pomper, Philip y D. G. Shaw (eds.) (2003): The Return of Science: Evolution, History, and Theory, Lanham, Roman &Littlefield Pub.
- Pryor, Karen v K. S. Norris, (eds.) (1991): Dolphin Societies: Discoveries and Puzzles, Berkeley, University of California Press.
- Stanford, Craig B. (1998): Chimpanzee and Red Colobus: the Ecology of Hunter and Prey, Cambridge, Mass., Harvard University Press.
- Tremlett, Giles (2006): Ghosts of Spain, London, Faber and Faber.
- Waal, Frans de (1982): Chimpanzee Politics, London, Cape.
- Waal, Frans de (ed.) (2001): Tree of Origin, Cambridge, Mass., Harvard University Press.
- Waal, Frans de (2002): The Ape and the Sushi Master, New York, Basic Books.
- Waal, Frans de y P. L. Tyack (eds.) (2003): Animal Social Complexity, Cambridge, Mass., Harvard University Press.
- Whitehead, Alfred N. (1929): Process and Reality, Cambridge, Cambridge University Press.
- Wrangham, R. et al. (eds.) (1994): Chimpanzee Cultures, Cambridge, Mass., Harvard University Press.

Recibido: 1 de diciembre de 2008 Aceptado: 1 de mayo de 2009