

Determinism and the Antiquated Deontology of the Social Sciences

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Abstract

This article shows how the social sciences, particularly human geography, rejected hard determinism by the mid-twentieth century partly on the deontological basis that it is irreconcilable with social justice, yet this rejection came just before a burst of creative development in consequentialist theories of social justice that problematize a facile rejection of determinism on moral grounds, a development that has seldom been recognized in the social sciences. Thus many current social science and human geography views on determinism and social justice are antiquated, ignoring numerous common and well-respected arguments within philosophy that hard determinism can be reconciled with a just society. We support this argument by briefly tracing the parallel development of stances on determinism in the social sciences and the deontological-consequentialist debate in philosophy. The purpose of the article is to resituate social science and human geography debates on determinism and social justice within a modern ethical framework.

1. Introduction

The purpose of this article is to show that the social science rejection of hard determinism (which had an illogical [for deciding what is a factual question] but nevertheless important normative component), largely complete by the mid-twentieth century, came just before a burst of creative development in consequentialist theories of social justice that *are* conceivably consistent with determinism (because they do not rely on intent or free will), a resurgence that has seldom been recognized in the social sciences. Thus the current social science view of determinism and social justice is antiquated, ignoring numerous common and well-respected arguments within philosophy that hard determinism can be reconciled with a just society. This argument is important to all of the social sciences, but perhaps of particular relevance to human geography, where issues concerning determinism have been especially prominent in shaping the discipline.¹ We support this argument with a purposefully concise² tracing of the parallel development of stances on determinism in the social sciences/human geography and the deontological-consequentialist debate in

¹ The relationship between environment, society, and determinism has of course been central to geography throughout its early development (e.g., Montesquieu, Ratzel, Semple, Febvre, Vidal de la Blache, Huntington, Boas/Sauer etc.) and remained central through the mid-twentieth century (e.g., Montefiore and Williams 1955, Spate 1957; see also Sprout and Sprout 1965 for an interesting parallel discussion outside of geography). Determinism remained important through its role in discussions of laws, probabilistic causality, and explanation (e.g., Harvey 1969) and at times appeared in the radical and cultural turns (e.g., Peet 1985). Questions hinging on determinism continue to be important to geography, for example in Merrett 2003 and Coombes and Barber 2005, as well as in work by development economists such as Gallup et. al. 2003 (*Is Geography Destiny?*). Ballinger 2008a, Ch. 6, Section 2 discusses methodological reasons why despite the strong desire by many geographers and social scientists more generally to avoid making metaphysical assumptions concerning determinism in explanation, it is not possible to do so.

² This is in order to avoid overwhelming the main point of the article with the vast and contested literature and endless possible digressions concerning these subjects. Once the main point is understood, then of course future, more detailed debate is possible.

philosophy. The article concludes with a brief consideration of deterministic consequentialist ethics, social justice, and the problems of egoism and altruism.

Any argument concerning moral considerations and determinism in the social sciences logically would be this brief: It is not logical to answer *factual* questions on *normative* grounds.

However, this has indeed been done (as we have had difficulty convincing philosophers less familiar with the social sciences; there is a small representation from the numerous examples in the social sciences included here). The illogical outcome of weighing in on what is a factual question based on moral reasoning seems to be due to the inherently moral component built into the social sciences from their earliest beginnings. For example, John Horgan recently observes: 'In the early 19th century, the French visionary Auguste Comte proposed a scientific chain of being, ranging from the physical sciences at the bottom up through biology to the "queen" of sciences, *sociologie*, at the top. A science of human social behavior, Comte contended, could help humanity make moral and political decisions and construct more efficient, just governments.' (Horgan 2011). The consensus seems to have been: If the social sciences have at base a normative component, and determinism is believed to be incompatible with morality—and besides, scientists were saying the world is indeterministic anyway (Hacking 1983; quantum physics in general) then why *not* object to determinism, even citing moral repugnance, despite the illogicality of deciding a factual question based on normative grounds?

Before continuing we should note that the determinism we discuss is hard determinism as defined below,³ and that a similar argument could be made replacing our emphasis on consequentialism with an emphasis on compatibilism, *viz.*, that the many modern developments in theories of compatibilism also problematize the traditional social science moral rejection of determinism. We do not pursue this possibility because we do not find compatibilist arguments convincing—we doubt there is a way to reconcile a meaningful concept of free will with determinism. Nevertheless, compatibilist theories also call into question the self-assuredness of the social science moral rejection of determinism.⁴

Also, we should be clear that our argument does not hinge on an argument that within philosophy consequentialist ethics have become *more* influential than

³ We use a common definition of determinism in Vihvelin (2003, para. 5): ‘the thesis that a complete description of the state of the world at any time *t* and a complete statement of the laws of nature together entail every truth about what happens at every time later than *t*. Alternatively, and using the language of possible worlds: Determinism is true at a possible world *w* iff the following is true at that world: Any world which has the same laws of nature as *w* and which is exactly like *w* at any time *t* is exactly like *w* at all times which are future relative to *t*’. The high degree of acceptance of a moral rejection to determinism in the social sciences (Section 2 below) demonstrates that most social scientists are libertarian incompatibilists, i.e., (metaphysical) libertarians and the determinism they object to ‘hard’ determinism. That is, they do not believe free will and determinism are compatible and so are not compatibilists, and since they believe in free will they reject incompatibilist hard determinism (the belief in determinism at the expense of free will).

⁴ It is important to note that, confusingly, the view is sometimes found (e.g., Mason 2005, 344) that compatibilism is determinism compatible with morals rather than the more common view that compatibilism is determinism compatible with free will *and thus* morals. We believe the former view makes it difficult to distinguish between several common combinations of determinism, free will, and morals: 1) (hard) determinism with no free will and no morals, 2) (hard) determinism with no free will but that is somehow moral (or more precisely, ethical, with an ethics emerging from the self-interested actions of many individuals, discussed in Section 3.1) and 3) determinism *with* free will *and thus also* morals. It seems clearer to consider the first two of these both ‘hard determinism’ (and then debate the possibility of an ethical hard determinism) and the last of these as ‘compatibilism’. Of course, it may not matter – Koons (2002), for example, argues that in practice an ethical hard determinism and compatibilism are identical.

deontological approaches in the last half century. In fact, the reverse is probably true. However, measuring their relative influence is not relevant to the argument at hand. What is important is that there has been an explosion in views on ethics (both consequentialist and deontological) since the mid-twentieth century, and among these are numerous new or refined consequentialist approaches that are highly relevant to social science assumptions yet have not received sufficient attention in the social sciences. It is perhaps time to reexamine social science assumptions and moral stances towards determinism given these developments.⁵

Why bother with determinism at all when the physical sciences seem to have shown that even the world of physics is indeterministic, much less the biological and social realms? Simply because it is not nearly as clear that physics has shown the world to be indeterministic as one might think if reading only social science references to quantum physics. In fact, even the *standard* interpretation (i.e., *not* just heterodox interpretations such as the oft-cited Bohm interpretation) of quantum mechanics by no means incontrovertibly shows that the universe is fundamentally indeterministic. In a careful survey of the topic asking the question ‘If we believe modern physics, is the world deterministic or not?’ John Earman concludes that ‘there is no simple and clean answer’ (Earman 2004, 43). After a similar survey on indeterminism in neurobiology, Marcel Weber concludes that ‘for the time being it is necessary to set the record straight on indeterminism in neurobiology. At present, its prospects are not good’ (Weber 2005, 672). And while there has been a pronounced emphasis on free will and agency in the social sciences in the last half century, without a neurological basis for indeterminism it seems difficult to account for where something truly ‘free’ enters into the question of human action. Even if there is

⁵ Richardson and Bishop 2002 represents an effort to develop more sophisticated approaches to the consideration of determinism in the social sciences, although with a focus on psychology and a ‘hermeneutic’ perspective on ethics that ultimately does not seem to address (beyond embracing the communitarianism of Etzioni [1996] and similar perspectives) the fundamental contradictions many see between social justice and determinism.

ontological chance in quantum physics, this may not ‘percolate up’ and make the biological realm indeterministic (see, for example, Millstein 2000 and 2003, especially on the concept of ‘asymptotic determinism’). With no appeal to free will, some combination of nature and nurture and their astonishingly complex interplay may be sufficient to account for human action.⁶

In recent decades, due in part to positions on supervenience and physicalism, doubts about free will have been common among philosophers, especially the (metaphysical) libertarian free will that pervades the social sciences. Koons notes that ‘[m]ost philosophers now concede that libertarianism has failed as an account of free will’ (Koons 2002, 81) and Smilansky that ‘metaphysical or libertarian free will, is highly contentious and, as many believe even incoherent. To pin the hopes of egalitarianism on libertarian free will would be suicidal’ (Smilansky, unpublished, 4). Comparing these views with those on free will and agency in the social sciences gives an idea of the divergence of the social sciences from many modern philosophical perspectives on free will. In sociology, for example, Wright notes that ‘the last few decades have witnessed a pronounced shift in thinking towards agency arguments. Over the last 25 years, a variety of theoretical perspectives—including

⁶ When, if one looks for the precise details beyond a vague ‘free will’ for what motivates human action in philosophical and ethical discussions (if they are mentioned at all, which often they are not), one finds only nature, nurture, or some combination of both as the motivators. As just one example, in Rawls’ *A Theory of Justice* (1971) humans are morally motivated by ‘nature’ e.g. (all emphases added), ‘the effort a person is willing to make is *influenced by his natural abilities and skills*...The *better endowed* are more likely, other things equal, to strive conscientiously, and there seems to be no way to discount for their greater good fortune’ (312) and ‘Moral learning is...the free development of our *innate intellectual and emotional capacities according to their natural bent*’ (459). Alongside these ‘nature’ causes of human action, ‘nurture’ causes are found, e.g., ‘the willingness to make an effort, to try, and so to be deserving in the ordinary sense is itself *dependent upon happy family and social circumstances*’ (74) and ‘by the approbation and disapprobation of parents and of others in authority’ (458). Both nature and nurture combined can be found as well: ‘moral sentiments are likely to bear the scars of this *early training* which shapes more or less roughly our *original nature*’ (459). There is no appeal when the details of human action are considered, however, to any causes of human action *other* than nature and nurture.

ethnomethodology, hermeneutics, phenomenology, rational choice theory, the sociology of knowledge, the sociology of sociology, and structuration theory—have caused a virtual transformation toward agency in sociology’ (Wright 1995, 8).⁷ In the social sciences determinism has been replaced with what David Harvey speaks of as a ubiquitous ‘triumphalist humanism that underlies so-called ‘possibilist’ doctrines of economic development and change’ (Harvey 2001, 228). Arguing against ‘sociocultural evolutionism’ Bryant reiterates the view, widespread in the social sciences, that agency and free-will mean that we must study the social realm as ‘in Durkheim’s classic formulation, a reality *sui generis*, a distinctive and emergent ontic plane that requires its own indigenous categories and principles of explanation’ (Bryant 2001, 468). Simply put, there is a substantial disconnect between the conviction with which a majority of social scientists hold (metaphysical) libertarian views of free will based on assumptions concerning social justice and determinism and the multiplicity of views that have developed within philosophy in the last half century concerning social justice and determinism.

Section 2 supports the main contention of this article through a (purposefully brief) tracing of the development of stances on determinism in the social sciences and the parallel deontological-consequentialist debate in philosophy. We show how the social sciences first rejected determinism on moral grounds and then subsequently ignored the numerous later developments in consequentialist ethics that might have undermined the self-assuredness of this rejection. Section 3 concludes the main argument, and is followed by a short consideration (Section 3.1) that outlines views on how deterministic consequentialist theories might conceivably be argued to account for the development of a just society. Section 4 considers some further possible objections to the argument.

⁷ We are aware that there are arguments that distinguish free will from agency. However, this does not affect the discussion here. Where agency is used synonymously with free will it falls within the scope of this discussion. Where it is explicitly defined as something other than free will, then it does not.

2. The Deontological - Consequentialist Debate in Philosophy and the Moral Rejection of Determinism in the Social Sciences

Deontology is an ethics based on moral obligations and intent (and thus free will), traditionally contrasted with utilitarianism (since the mid-twentieth century more broadly conceived of as 'consequentialism', the belief that it is the consequences of actions that matter rather than intent). Because consequentialist ethics do not rely on intent or free will they are conceivably consistent with hard determinism (although consequentialists do not necessarily believe hard determinism to be true) while the moral basis of deontological ethics makes them fundamentally opposed to hard determinism. The deontological-consequentialist debate was long defined by Kant and Locke (deontological) and Bentham, J.S. Mill, and later Sidgwick (utilitarian) from the seventeenth to the mid-twentieth century.

2.1 The early twentieth century rejection of determinism in the social sciences

While within philosophy the deontological-consequentialist debate developed the 'social sciences' began to emerge in the nineteenth century. Various strands of the young social sciences incorporated ideas viewed as deterministic, especially environmental/geographical determinism and various types of biological determinism (Social Darwinism, 'nature' views of the mind). We will focus on geographical/environmental and biological determinism here. Although other uses of the term 'determinism' are also frequently encountered in the social sciences, such as 'technological determinism', 'economic determinism', 'cultural determinism' and so forth (and more generally in recent decades, 'social constructionism') these are clearly not really examples of determinism; it is evident that economies, cultures, technology etc. are each influenced by myriad other factors and are thus not themselves ultimately determinate - technology is clearly in part 'caused' by culture,

economies changed by technology, culture by economics and so on (in what might be called ‘circular endogeneity’).⁸

The various strands of determinism, especially environmental and biological determinism, found in the young social sciences began to be rejected in the early twentieth century, a process virtually complete by mid-century. By 1951 geographical determinism could already be declared ‘as dead as the dodo’ (Dickinson 1951, 6). Likewise with biological determinism, whose rejection ‘reached its zenith in the 1950s, in the aftermath of the Nazi atrocities, but in some corners of philosophical inquiry [its rejection] took hold much earlier. In psychiatry the fashion was turning against biological explanations around 1900’ (Ridley 2003, 98).

Although there was an important boost to the rejection of determinism in the social sciences from quantum physics, again and again we find *moral* reasons for the rejection of environmental and biological determinism.⁹ The moral objection is clear

⁸ It seems that it is precisely the *prima facie plausibility* of environment or biology to be ultimate causes determinate of later social development that accounts both for their attraction and repudiation. This *prima facie* plausibility is evident, for example, in the way that environmental and biological determinism circle back to the issue of free will through the question of human action and the ‘nature’(biology)/’nurture’(environment) debate, where human action has time and again been suggested (or feared) to be ultimately caused by either environment or biology. We cannot help but point out the inconsistency of the rejection of environmental influence in the study of society as ‘environmental determinism’ and the simultaneous widespread embrace by social scientists of environmental influence within the nature/nurture debate.

⁹ The development of quantum physics would also reinforce the rejection of determinism. However, as evidenced by the quotes in this paper and many more like them, overall in the social sciences one finds more and earlier examples of the rejection of determinism on moral grounds than on the basis of quantum physics. The other most common objection to determinism is that it is overly simplistic to attempt to explain highly complex outcomes as deterministically resulting from relatively simple earlier factors such as geography (e.g., the Lewis and Wigen quote below). Accepting this viewpoint, however, obscures precisely what is one of the most interesting aspects of explanation – explaining the emergence of complex outcomes from relatively simple antecedent states. For a discussion of the importance of explanation of complex outcomes arising deterministically from simple initial conditions see Ballinger 2008b.

in the wording of objections to geographical and environmental determinism, which are ‘treated as part of geography’s distant and shameful past’ (Frenkel 1992, 144), ‘remembered with shame’ (Godlewska, 1993, 550) and equated with ‘Original Sin’ (Buttimer 1990, 16). ‘Of all the various chapters in the development of modern geography, none has been more disparaged, indeed vilified than the discipline’s relatively brief engagement with the doctrine of environmental or geographical determinism in the nineteenth and twentieth centuries’ (Bassin 1992, 3). Likewise, moral reasons lay at the heart of the social science rejection of biological determinism: ‘During most of the twentieth century “determinism” was a term of abuse, and genetic determinism was the worst kind of term’ (Ridley 2003, 98). Views such as those of Isaiah Berlin on determinism became conventional wisdom, that it ‘had dangerous moral and political consequences, justifying suffering and undermining respect for the “losers” of history. A belief in determinism served as an “alibi” for evading responsibility and blame, and for committing enormities in the name of necessity or reason.’ (Cherniss and Hardy 2006). Indeed, the moral objection to hard determinism is still so strong that even within philosophy ‘many philosophers seem to reject it not because of its philosophical implausibility, but because they fear the consequences of its being true.’ (Koons 2002, 81).

2.2 1950s to the present: Determinism as dead letter

From mid-century to the present little has changed in positions in the social sciences on determinism. Geographical determinism is rarely encountered, viewed as it is as an idea long ago rejected. For example, Lewis and Wigen (1997) admonish:

For late twentieth-century Americans to sustain belief in a sweeping fit between cultural and natural features requires turning a blind eye to the most basic findings of geographical research....Human history is no more molded by the rigid framework of landmasses and ocean expanses than it is determined by the distribution of ‘ideal climates’ (Lewis and Wigen 1997, 45, 46).

A modern paper that ventures to consider how geographical factors might influence economic outcomes (Gallup, Sachs, and Mellinger 1999) is condemned (in

the inaugural issue of a journal, no less, whose stated goal is to ‘reinvigorate the intersection between economics and geography’) as ‘breath-taking environmental and spatial determinism’ that should be corrected by other scholars, i.e., geographers that ‘have at least as much to teach economists as they have to learn’ (Sheppard 2001, 135), apparently meaning the conventional wisdom rejection of geographical determinism and that environmental factors are off limits in the study of society. Tellingly, this rejection comes immediately after a call to ‘avoid the temptation to dismiss out of hand what [one is] skeptical of’ (Sheppard 2001, 135). Environmental determinism is clearly considered so thoroughly rejected that this admonition does not apply to it.

Similarly, biological views of society such as evolutionary psychology are still widely rejected for their determinism. Deterministic evolutionary psychology with its ‘stress on human universals and on innate behavioral differences between the sexes simultaneously conflicts both with the left’s current preoccupation with diversity and multiculturalism, and with its feminism.’ (Grosvenor 2002, 436). Thus impeached, evolutionary psychologists themselves even seek exoneration from the epithet of determinism: ‘Neither Dawkins nor any other sane biologist would ever dream of proposing that human behavior is deterministic’ (Pinker 2002, 112).

The modern rejection of determinism has not only continued since the 1950s. It has remained based on the same moral reasoning of the early twentieth century. Like Sachs’ work mentioned above, the few forays into what are considered deterministic arguments that do occur are attacked, sometimes vehemently, in a way only moral indignation can provoke. For example, Jared Diamond, like Sachs, suggests environmental factors are important in economic development. This ‘deterministic’ explanation of global development patterns is chastised as a ‘pernicious book’ that except for the popular attention it has received ‘would not ordinarily merit scholarly discussion’ (Sluyter 2003, 813). Diamond’s (deterministic) ‘junk science’ is seen as so morally dangerous that it ‘demands vigorous intellectual damage control’ (Sluyter 2003, 813). Kaplan can write ‘And of all the unsavory truths in which [international relations] realism is rooted, the bluntest, most uncomfortable, and most deterministic of all is geography.’ (Kaplan, 2009, 97). Regarding biological determinism, Pinker

notes that ‘[t]o acknowledge [a perceived deterministic] human nature, many think, is to endorse racism, sexism, war, greed, genocide, nihilism, reactionary politics, and neglect of children and the disadvantaged... Any claim that the mind has an innate organization strikes people not as a hypothesis that might be incorrect but as a thought it is immoral to think’ (Pinker 2002, viii). ‘Progressive’ or ‘left’ intellectuals interpret ‘deterministic’ evolutionary psychology ‘as part of the broader assault on collectivism and on the prospects for more cooperative and egalitarian social models’ (Grosvenor 2002 436) and view determinism ‘as a flawed scientific rationalization of prevailing [unethical] social hierarchies.’ (Grosvenor 2002, 438).¹⁰ The eminent primatologist Sarah Hrdy even questions ‘whether sociobiology should be taught at the high-school level...Unless a student has a moral framework already in place, we could be producing social monsters by teaching this.’ (quoted in Barash, 2006, B13).

2.3 *The mid-century reinvigoration of ethics*

The period following the early- to mid-twentieth century demise of geographical and biological determinism in the social sciences saw a remarkable reinvigoration of the study of ethics and related issues of social justice among philosophers and political theorists. This resurgence in part was stimulated by G.E.M. Anscombe’s influential article ‘Modern Moral Philosophy’ (1958) which both introduced the term ‘consequentialism’ now used to describe the broad range of ideas descended from

¹⁰ Although overt rejection of determinism on moral grounds is frequently from the ‘left’, we do not mean to imply that determinism is somehow morally accepted by the ‘right’ (nor, by extension, that our views are somehow on the ‘right’). Indeed, the almost total banishment of the concept from the modern social sciences is likely due precisely to the fact that its rejection *is one of the few areas where both right and left seem to be in agreement*. The religious right objects to determinism (and its twin concept, reductionism, see Wacome 2004) based on beliefs that it undermines religion, while they as well as the conservative and social right (e.g., Berlin, Hayek) and (political) libertarians reject strongly to the determinism that was frequently associated with totalitarian regimes (Nazi, Stalinist, etc.) and with Marxism. In the twentieth century, determinism had few friends, and, remarkably and almost uniquely among scientific ideas, was reviled by social scientists of virtually all political persuasions, left *and* right.

classic utilitarianism and introduced a ‘virtue ethics’ as an alternative to both deontologism and consequentialism. A number of important consequentialist viewpoints followed, such as Smart (1961), Hare (1963), Lyons (1965) and Bayles (1968). Contemporaneously a type of consequentialism known as ‘rule consequentialism’ was also developed, according to Hooker (2003) first clearly formulated by Urmson (1953) and Brandt (1959). Little over a decade after Anscombe’s seminal article another work widely considered one of the most important treatises on normative ethics and social justice since the period of Kant and Locke was published, Rawls’ *A Theory of Justice* (1971). This extraordinarily influential work increased still further the attention to social justice and topics related to the deontological-consequentialist debate that had already noticeably increased in the period since Anscombe’s article.

3. Discussion: Modern Consequentialism and Social Justice

We have briefly outlined how, since the mid-twentieth century rejection of determinism on moral grounds in the social sciences, numerous consequentialist theories of ethics and social justice (consistent with hard determinism because they do not rely on intent or free will) flourished while the social sciences nevertheless rejected determinism as if these did not exist. We should note (as Rawlsian approaches so pervasively shape modern debates on ethics) that Rawls himself considered his argument to be in opposition to utilitarian arguments. Nevertheless, *A Theory of Justice* stimulated still further attention to ethics and the development of consequentialist ideas, leading to still more nuanced and robust consequentialist viewpoints (Shaw 1999 provides a readable yet thorough modern overview and defense of utilitarianism). Furthermore, it is debatable whether or not Rawlsian approaches to ethics are truly anti-consequentialist. As just one example, note the common observation that Rawls justifies income inequalities based on the benefits (consequences) they incur. More generally, ostensibly deontological ethics might be considered consequentialist in the sense they are ultimately judged ‘good’ due to their positive consequences for society. On the historical and institutional view

deontological moral ‘rules’ might just be entrenched customs that became judged as good based on long forgotten consequentialist grounds. Even Kantian ethics, traditionally considered the epitome of deontology, might be interpreted as consequentialist for these and other reasons (Cummiskey 1990, Hare 1997). Indeed, Portmore (2007) argues that *all* deontological theories can (and should) be ‘consequentialized’. (There are also arguments that Kant can be interpreted as a compatibilist, e.g. Hudson 1994; Vilhauer 2004 further discusses this argument). Additionally, Anscombe’s ‘virtue ethics’ have seen the development of at least one deterministic variant, (Slote 1990), and Smilansky even argues for ‘The ethical advantages of hard determinism’, the title of his (1994).

In light of these and many related developments and possibilities regarding consequentialism it would seem that the self-assuredness of the social science rejection of determinism on moral grounds is misleading and irresponsible. Bald assertions that determinism is incompatible with social justice, so common in the social sciences, are misleading because they give the appearance that this is undisputed when this is far from the truth. They are irresponsible when they ignore the scores of contrary arguments that are, if not universally accepted, at least well-respected by experts on ethics, justice, and free will. To authoritatively reject determinism on moral grounds one would need to demonstrate that deontological arguments are superior to consequentialist arguments.¹¹ However, consequentialist arguments clearly remain on equal footing with deontological arguments among philosophers and political theorists. The numerous developments in consequentialist theories of social justice compel the conscientious social scientist to remain at least agnostic on the issue of determinism and ethics in the social sciences.

¹¹ Alternatively, as noted in Section 2, social scientists might base their rejection of determinism on other arguments such as 1) quantum indeterminacy or 2) as being overly simplistic. However, 1) the most comprehensive recent considerations of physics and determinism find no clear reason to believe modern physics shows the world to be either deterministic or indeterministic and 2) as Ballinger 2008b discusses, there have been recent developments in physics and other fields that demonstrate the plausibility of the deterministic development of the complexity of the world from the simplest of initial conditions.

3.1 A Note on Social Justice and Determinism

The purpose of this essay has been to show that there are many respected arguments for consequentialist ethics (which are potentially consistent with hard determinism because they do not rely on intent or free will) and that these are irresponsibly ignored by social scientists. Thus our purpose has not been to actually defend the possibility of a consequentialist ethics. However, the reader might reasonably ask: How might there be a just society when individuals are not responsible for their actions in the sense implied by the concept of free will, and are motivated only by self-interest? There is of course no space to fully consider this question here, but it is perhaps useful to highlight a few relevant points.

To consider how there might be a just society without resorting to deontology and free will, let us consider two fundamental deontological criticisms of consequentialism. One way in which consequentialism can be divided is into individual-oriented consequentialism, i.e., egoism, and group-oriented consequentialism, such as classical utilitarianism ('the greatest good for the greatest number'). Deontologists argue that neither of these can be just without morals. Under egoism there is no room for altruistic behavior and cooperation; society would be under the proverbial 'law of the jungle'. Conversely, in group-oriented consequentialism there would be no moral 'brakes' on what an individual is expected to sacrifice for society. This is the classic 'organ transplant' argument: that society would be justified in sacrificing an individual to use their organs in order to save five others.¹²

¹² Many of the arguments of this article could be written in terms of concepts of criminal law and justice. In such a paper the 'organ transplant' type argument and its political ramifications would be well represented by C.S. Lewis' well-known (1953). More generally, the significance of consequentialist (preventive) and deontological (retributive) concepts of justice are very well laid out in Robinson (1987) and citations therein. Robinson (2001) makes an interesting and subtle argument for why these concepts of criminal law should be both explicit and separately administered.

The problem of altruism is especially difficult for a non-deontological understanding of society. Early responses by evolutionary psychologists were based on kinship, with apparently altruistic acts actually a way of assuring the success of a genetic lineage. However, these were criticized for not being able to account for the full extent to which large, non-kinship based societies cooperate. From these early efforts explanations of altruism have developed and become both more nuanced and more engaged with and by the philosophical debate on morals (evident, for example in Joyce 2006 and de Waal 2006, the latter which includes responses by philosophers Peter Singer, Christine Korsgaard, and Philip Kitcher). Recently there has been the development of the concept of ‘altruistic punishment’ that sheds some light on the problem of prosocial behavior (e.g., Fehr and Gächter 2002; Boyd et. al. 2003; Gintis et. al. 2003; Fowler 2005. For a critique of Fehr’s work on altruism and its significance for the social sciences see Peacock 2007). The long line of game theoretic approaches to altruistic behavior, whose promise was already being realized in works such as Skyrms (1996) are developing apace (e.g., Binmore 2005). The ferment in the study of altruism and cooperation makes this aspect of consequentialist ethics especially dynamic at this time. As with the social science rejection of determinism on moral grounds, this does not mean social scientists should not reject consequentialism because of the problem of altruism. But it does make it irresponsible to imply consequentialist theories *must* be rejected based on altruism when this is an ongoing area of research that is making significant advances.

This brings us to group-oriented consequentialism and the objection that there is no limit to how much society is justified in expecting individuals to sacrifice for the greater good. In the real world it is relatively easy to imagine how self-interest tends to work against this criticism. Much of the story of institutional and democratic development and enfranchisement is the story of individuals struggling to protect themselves from tyranny, including tyranny of the majority. Few if any accounts of the development of the institutions we associate today with a just society argue that these developed because pre-democratic states, empires, feudal lords, warlords, despots, kleptocracies, plutocracies, theocracies, or demagogues relinquished power or wealth because it was *morally right*. In accounts of the development of subsequent,

relatively more just systems of representational government and institutions ranging from Marxist accounts (e.g. Moore 1966; Brenner 1976; Therborn 1977) to (political) libertarian (e.g. Hayek 1973; Benson 1991) to institutional, neoclassical, rational choice and other accounts (e.g. Elias 1939; Downs 1957; Olson 1965; North and Thomas 1973; Tilly 1975, 1990; Mann 1993; Spruyt 1994, 2002; Powelson 1994; Allum 1995; Ertman 1997; De Soto 2000; Acemoglu and Robinson 2005; Boix 2006; Greif 2006) morality plays no role. It does not seem to be the case that we *must* appeal to morals to see why individuals have struggled to limit utilitarian excesses. Hedonism will do.

4. Conclusion: Some Further Possible Objections

A frequent comment on early drafts of this paper was that we are in error in treating the social sciences as a ‘unitary or unified enterprise’. Of course the social sciences are made up of many fields, each marked by a vast array of different viewpoints and approaches. However, despite a long and wide-ranging review of this topic we have not found evidence of there being substantial amounts of variation on *this* issue (determinism) in the social sciences. Indeed, a complacent lack of diversity is precisely what motivates the article. Notably, the comments mentioned above were supplied without any evidence or examples that any significant areas of the modern social sciences have as basic assumptions any perspectives other than such common anti-deterministic views such as probabilistic causality in explanation, the contradiction between morality and determinism and so on. Among modern orthodox and/or important heterodox social science - especially geographic - traditions there do not seem to be substantial deviations from our characterization of social science views concerning determinism. In their absence and (especially) in the interest of brevity we have purposefully treated the social sciences as a whole regarding this particular issue.

Another possible misunderstanding - this paper is not about determinism *per se*, nor a paper about deontology/consequentialism *per se*. It is a *comparison* of the differing trajectories of thought on these issues in two different disciplines that we

hope illuminates key assumptions, assumptions especially important to human geography. For this reason we have provided the briefest description of these ideas possible in the interest of conciseness and clarity. Anything more would risk the article becoming unnecessarily bogged down in what are vast and disputed literatures on determinism, ethics and so on.¹³ We only want to show the relatively simple yet nonetheless important way in which there developed enough of a consensus on these issues in the social sciences to preclude consideration in the social sciences of important, relevant, and more recent developments concerning these issues among philosophers and political theorists.

This brings us to a last point - relevance. If our aim is so limited, what is the value of the article at all? It lies in the fact that the (usually unspoken) assumptions concerning determinism and indeterminism are of (frequently unrecognized) critical importance to the interpretation of arguments across the social sciences, *e.g.*, general versus token causation (Sayer 2000), understanding the difference between chaos and complexity (Manson 2001), interpretations of counterfactuals in history and the social sciences (Tetlock and Belkin 1996, Ferguson 1997), frequentist statistics and the meaning of significance levels in geography, sociology and other disciplines (Berk and Freedman 2001), and interpretations of path dependency in economic geography, history, and other disciplines (what does it mean to say development outcomes ‘could have been different?’) (Goldstone 1998, Mahoney 2001). Many of these problems are especially relevant to human geography. Without a more comprehensive familiarity with and appreciation of the degree of heterogeneity in modern philosophy regarding determinism, social scientists and human geographers may not only be interpreting their findings incorrectly, but doing so uniformly in the same direction, with all of the dangers to scholarship that such a consensus implies.

¹³ We want to also make clear that this article is *not* intended as a literature review. The overviews presented are only meant to convey a general impression of common views on determinism and ethics in the fields and time periods we discuss. There is no intent for this paper to be a survey of these topics or disciplines other than to make a particular point concerning determinism, deontology, and the social sciences.

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