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Ethics, brain injuries and sports: prohibition, reform, and prudence

Abstract: In this paper, we analyze the issue of the elimination of sports with a high risk of brain injury. In particular, we critically examine Angelo Corlett's and Pam Sailors' arguments for the prohibition of football and Nicholas Dixon's claim for the reformation of boxing to eliminate blows to the head. Two elements are the ground of Dixon's and Sailor's arguments: (a) the empirical assumption that there is an essential or causal connection between brain injuries incurred in football and the development of a degenerative brain disease known as chronic traumatic encephalopathy (CTE), and (b) John Stuart Mill's analysis of autonomy, in particular, his position related to consensual domination (ie voluntary enslavement). In the second section of the paper, we present four arguments to contest the validity of Dixon's and Sailor's assumptions. First, we present autonomy-based arguments for the moral acceptability of consensual domination. Secondly, we argue that the nature of the goods people pursue in their lives might justify their foregoing (degrees of) future autonomy. Thirdly, we argue that Mill's argument against consensual domination draws on ambiguous and arbitrary distinctions. Fourth, we highlight the lack of consensus and empirical evidence regarding CTE arising from brain injuries in sport. We conclude that the proposals from reforming or eliminating sports with high risks of brain injuries are at present not well founded.

Might a ban on sports with a risk of brain injuries be justified?

The moral permissibility or impermissibility of those sports in which harms are caused by brain injury is a recurrent theme in sports and medical ethics (Bloodworth, 2014; Breivik, 2007; M. McNamee, 2007; Rosenberg, 2014; Russell, 2005, 2007; Simon, Hager, & Torres, 2015). The fault lines of these debates were laid down by John Stuart Mill in the middle of the 19th Century and remain with us today. Thus, in philosophical, ethical and legal dispute, the notion of vulnerability remains the dominant criterion of demarcation regarding the justified interference on the liberty of individuals pursuing their own life plans and goals. While the debate on the moral permissibility of boxing has spawned its own literature within and beyond the philosophy of sport milieu (Radford, 1988) for several decades, the notion of brain injuries in general, and concussion in particular, has raged in public debates, medical science, and in the ethics of sports in recent years.

The ranges of response to such incidents, as have been discussed in relation to American Football, Rugby, and Soccer (Association Football), have been many and varied. They range from uncertainty and denial on the one hand to calls for prohibition on the other. And in the middle ground, there are those who claim – similar to debates in boxing (Dixon, 2001, 2007; Parry, 1998) – that the merits and internal goods of the activity may be preserved while diminishing its deleterious consequences by a series of reforms. In this article, we discuss two recent contributions to the literature on brain injuries and sports by Angelo Corlett (2014) and Pam Sailors (2015) that call for a prohibition on American Football. In addition, we partly draw on Nicholas Dixon's call for reform of boxing, on whose arguments - after John Stuart Mill - Sailors partly relies. We find that the use of Millian arguments are unsound and that the conclusion for prohibition, though it has merit, is not warranted by the arguments offered.

Corlett on the elimination of inter-collegiate football.

In his essay "Should inter-collegiate football be eliminated? Assessing the arguments philosophically," J. Angelo Corlett poses five arguments for the elimination of college football: (a) argument from exploitation; (b) economic argument; (c) academic argument; (d) argument from fraud; and (e) health care and medical costs to others argument. Corlett is not the first to discuss the thorny issues that orbit inter-collegiate athletics (Andre & James, 1991; Simon, 1991). The nature and status of quasi-professionalized inter-collegiate athletics (especially American Football) within educational institutions are quite unique in the world. Its stadia and merchandising eclipse in commercial and economic terms most professional sports franchises. For this reason, the corruptive

character of commercialized inter-collegiate sports, on which Corlett's arguments (a), (b), (c), and (d) rely, has been regarded as one of the main reasons for their elimination. However, according to Corlett, the "health care and medical costs to others argument" is the only argument that serves its purpose and stands critical analysis not only in the context of college sports but it also in professional football (Corlett, 2014, footnote 18). Football, he argues, should be eliminated because:

"it is unfair to saddle others with significant health care and medical costs of, say, CTE [chronic traumatic encephalopathy] given that such costs cannot be realistically covered by [athletes] themselves [...] Why should others (taxpayers in general) be forced to cover such costs by way of, say, higher health care insurance premiums?" (Corlett, 2014, p. 124).

The central normative concept in Corlett's argument is "fairness." For Corlett, athletes and football teams are not able to afford the insurances that provide long-term cover medical and legal CTE and other injuries in the light of new medico-scientific research into the brain and its vulnerabilities. He argues that the only way to cover these programs, in the context of ever-increasing premiums, is through public taxation or higher health care premiums. Since, Corlett argues, football is not a public or social good (a position not without counter-critique) there can be no justifiable reason for forcing people to fund football programs. If individuals - many or most of whom have no desire to support the activity - were obliged to do so, then the insurance covering football would place an unfair financial burden on them. To avoid incurring this unjust situation, football should be eliminated. We note in passing that his argument could be applied to any other sport with a high risk of brain injuries. For example, the Isle of Man TT motorcycle racing has incurred more than 250 deaths in its 110 year history. Nevertheless, it is American Football and Boxing that are the focus of the present essay, being the object of Corlett's, Dixon's and Sailors' arguments.

It is important to note that Corlett's argument relies on some interesting empirical assumptions about the economic structure of sport institutions and nature of sport practices. In particular, Corlett assumes to a large degree the existence and necessary presence of brain injuries in football. He fails to consider seriously the modification of sports, which might allow for a reduction in such injuries either through the introduction of new equipment or the modification of the rules of the game. Earlier, and in a similar vein, Jim Parry (1998) and Nicholas Dixon argue for the prohibition of blows to the head in boxing (Dixon, 2001). Moreover, if football were to become economically unsustainable without the support of public funding, the sport itself could be modified to require less expenditure, for example, by reducing team rosters or play time, or by increasing sponsorship, and so on. What Corlett takes seriously is the significance of brain injuries and their consequent economic costs, as opposed to the direct harms to athletes themselves.

Sailors' and Dixon's Millian argument for the elimination or reform of football and blow to the head in boxing.

In contrast to Corlett's case against football, Pam Sailors' and Nicholas Dixon's cases for banning football and blows to the head in boxing, respectively, rely on the same empirical assumption about brain injuries but on a different moral argument, namely, the harm principle (Mill, 1992). Corlett dismisses the harm argument as excessively paternalistic. According to him, arguments relying on the medical risks to oneself of playing contact sports like football lead to what Gerald Dworkin (1972, 1983) and Joel Feinberg (1984) call "hard paternalistic justification," that is, "the attempt to substitute one person's [competent] judgment for another's, to promote the latter's benefit" (Dworkin, 1983, p. 107).

Dworkin's distinction between soft and hard paternalism draws on John Stuart Mill's following famous characterization of autonomy in *On Liberty*:

"The object of this Essay is to assert one very simple principle (...) the sole end for which mankind are warranted, individually or collectively, in interfering with the liberty of action of any of their number, is self-protection. That the only purpose for which power can be

rightfully exercised over any member of a civilised community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. He cannot rightfully be compelled to do or forbear because it will be better for him to do so, because it will make him happier, because, in the opinions of others, to do so would be wise, or even right. These are good reasons for remonstrating with him, or reasoning with him, or persuading him, or entreating him, but not for compelling him, or visiting him with any evil in case he do otherwise. To justify that, the conduct from which it is desired to deter him must be calculated to produce evil to some one else. The only part of the conduct of any one, for which he is amenable to society, is that which concerns others. In the part which merely concerns himself, his independence is, of right, absolute. Over himself, over his own body and mind, the individual is sovereign” (Mill, 1989, 13).

For Mill, autonomy entails the pursuit of “our own good in our own way, so long as we do not attempt to deprive others of theirs, or impede their efforts to obtain it” (Mill, 1989, 16). When individuals possess a tolerable amount of common sense and experience, Mill argues, their way of living is the best because it is *their* own mode of living. Mill’s appeal to tolerable levels of common sense and experience opens up a space for rightfully limiting people’s sovereignty over themselves. From this standpoint, certain instances of paternalistic policies should be accepted when people are not in the situation to make autonomous choices and would harm themselves involuntarily. Involuntary harm to oneself is likely to occur in situations where agents lack relevant information of the consequences of their actions, are coerced into acting in a certain way, or have a significant degree of mental or physical incompetence. Children and people with disabilities are particularly vulnerable to involuntary harm. Rightful interventions into people’s autonomy for their own good based on their lack of autonomy are called “soft” paternalistic interventions.

Soft paternalism contrasts with hard paternalism. The former protects people from involuntary harm, whereas the latter “seeks to avert both involuntary and voluntary self-inflicted harms” (Lovett, 2008, 127). To illustrate this distinction, Mill uses an example involving an unsafe bridge:

“If either a public officer or any one else saw a person attempting to cross a bridge which had been ascertained to be unsafe, and there were no time to warn him of his danger, they might seize him and turn him back, without any real infringement of his liberty; for liberty consists in doing what one desires, and he does not desire to fall into the river. Nevertheless, when there is not a certainty, but only a danger of mischief, no one but the person himself can judge of the sufficiency of the motive which may prompt him to incur the risk: in this case, therefore, (unless he is a child, or delirious, or in some state of excitement or absorption incompatible with the full use of the reflecting faculty), he ought, I conceive, to be only warned of the danger; not forcibly prevented from exposing himself to it” (Mill, 1989, 96).

For Mill, a public officer would only be justified to stop somebody from crossing an unsafe bridge if the bridge-crossing person was not aware of the conditions of the bridge. In case the people attempting to cross the bridge were fully aware of the danger but wanted to do it anyway, the public officer would not be justified in attempting to stop them so doing. On Millian terms – after the previously cited quotation - (s)he might warn them, urge them, remonstrate and reason with them, and so on, but *not* prohibit them. The distinction between soft paternalism and hard paternalism plays a major role in public policy-making in liberal-democratic states. Van der Veer (2014, 13–16) notes forty such instances, including instances such as fluoridization, or compulsory schooling and vaccinations, where we accept such intervention. Most obviously, with regard to smoking cigarettes and drinking alcohol, educative policies are preferred over punitive ones in order to respect the smokers’ or drinkers’ autonomy. Awareness campaigns to enable citizens to make free choices based on informed decisions about alcohol consumption and tobacco are commonplace, whereas punitive policies are restricted to cases where others are or may be harmed, i.e. the increasing prohibition on smoking in public places, or prohibiting of consumption or purchase by children.

According to Corlett, the situation of the bridge-crossing person is equivalent to that of athletes who choose to play football. Football players might have proper information regarding brain injuries and can use their reflective judgment to knowingly and voluntarily assume the health risks involved. From a Millian perspective, we should provide athletes with accurate and relevant information, which is comprehensible to them, in such a manner to create the conditions for allowing them to make autonomous decisions. As Feinberg argues, Mill's position aligns with the traditional common law maxim *violenti non fit injuria*—to those that consent no injury is done.

Mill's exception to his autonomy principle

Mill, beyond his exceptions of those incapable of autonomous choice, seems to admit a further exception to the application of his principle and view of autonomy as built upon the not-harm-to-others principle, namely, consensual domination (Pettit, 2010, pp. 63–64):

“[B]y selling himself for a slave, he abdicates his liberty; he foregoes any future use of it, beyond that single act. He therefore defeats, in his own case, the very purpose which is the justification of allowing him to dispose of himself. He is no longer free; but is thenceforth in a position which has no longer the presumption in its favor, that would be afforded by his voluntarily remaining in it. The principle of freedom cannot require that he should be free not to be free. It is not freedom, to be allowed to alienate his freedom (Mill, 1989, 103)”

Although Mill argues that we should tolerate people's voluntary decisions to inflict upon themselves harm (even up to and including death, such as the bridge-crossing individual), allowing them to sell themselves into slavery is different (Archard, 1990, 546). Anyone who agrees voluntarily to enslavement, according to Mill, is engaged in a performative contradiction. By making the decision of consenting to be dominated by a master, they negate what allows them to act voluntarily. Thus, making a moral choice destroys the very possibility of making such a choice (albeit in the future). Thus voluntary slavery can be seen in the long run to be self-contradictory. Moreover, if morality is at least in part concerned with the protection and promotion of autonomy, the decision of selling oneself into slavery goes against the key normative principles of morality. This turns the prohibition against voluntary slavery into a rightfully justified restriction.

Dixon calls this kind of restriction “pre-emptive paternalism,” which he defines as the restriction “on autonomous actions in order to preserve greater future autonomy”, and which is well established in our legal system (Dixon, 2001, 332). The prohibition on addictive drugs and laws requiring the use of seatbelts and motorcycle helmets are examples of it. Suppose a drink company commercialized an energy drink that caused the impairment of cognitive abilities intrinsically linked with the exercise of autonomy, such as paying attention, organizing thoughts, and remembering. As these effects would surely be detrimental to people's autonomy, impairing their “ability to reflect on and form values and life plans in the first time, which is the most fundamental element of autonomy” (Dixon, 2001, 335), a pre-emptive intervention would be justified.

Since the effects of the hypothetical energy drink mentioned above correspond to the effects of CTE and other brain injuries, practices leading to them should also be banned. This is Dixon's and Sailor's argument for the elimination of blows to the head in boxing and football, respectively. According to Dixon and Sailors, brain injuries related to practicing football and boxing reduce boxers' and football players' future autonomy the same way selling oneself into slavery does it:

“Given what we know, and are learning, about CTE, choosing to play football is analogous to choosing to be sold into slavery, since choosing football means choosing the likely brain damage that makes later autonomous choice equally impossible” (Sailors, 2015, 271).

The practice of sports with high risk of brain injuries, according to Sailors and Dixon, must be seen as analogous to consensual domination. Both types of practices imply the voluntary foregoing of future autonomy. If the reduction of future autonomy provides sufficient grounds for rejecting practices of

consensual domination like voluntary slavery, then, it also provides enough grounds for banning activities that allow athletes to trade their future autonomy for the sake of taking part in a sport with a significant risk of brain injuries. Pre-emptive paternalism, therefore, justifies the ban on football and blows to the head in boxing. Is this a good argument? Are Dixon and Sailors right? Should we cancel all college football programs and suggest the National Football League (NFL) close its business due to present and prospective effects of brain injuries? Should football and boxing rules and equipment be modified to protect the athlete's future ability to make rational choices?

The following are reasons for doubting that the analogy between voluntary slavery and practicing football and boxing works and, therefore, for accepting Dixon's and Sailor's arguments: a) it might be that consensual domination is permissible; b) there might be other present or future compensatory goods that are being overlooked in the argument for eliminating football and blows to head in boxing; c) Mill's formula is ambiguous and arbitrary, and; d) the strength of the data regarding the existence of CTE does not support Sailor's and Dixon's use of Mill's slavery analogy.

2. Four arguments against Sailors' and Dixon's use of Mill's slavery analogy

a. The validity of Mill's claim that consensual domination should be forbidden

One possible criticism of Dixon's and Sailors' pre-emptive paternalistic arguments for the elimination or reform of sports with high risks of brain injuries refers to the validity of Mill's claim that we should not be allowed to sell ourselves into slavery. For example, Dworkin argues that selling themselves into slavery does not preclude individuals from acting autonomously (Dworkin, 1983). For him, people should be allowed to forego their future autonomy as long as their decision is the result of their values and rational reflection. Under these conditions, autonomy-limiting decisions can rightfully be made, even if they involve the elimination of future autonomy, on the basis that they fit the life plan of those selling themselves into slavery. People who make such a choice exercise their autonomy by becoming and living as slaves. Dworkin, thus, turns Mill's argument on its head to argue that allowing fully autonomous individuals to sell themselves into slavery should be morally permissible.

Dworkin extends his argument to claim that, not only would forbidding consensual domination limit people's autonomy, it would also impose a particular idea of the good on them (Dworkin, 1983). If this is the case, the restrictions on consensual domination should be removed because a society that lets a few people sell themselves into slavery is preferable over one that limits people's autonomy to choose the kind of lives that they want to live. The acceptance of voluntary dominance, thus, would be an "acceptable price for the sake of preserving liberty" (Archard, 1990, 456).

It should be noted that we do not necessarily endorse Dworkin's autonomy driven anti paternalism. We merely point to legitimate limitations in the characterization of pre-emptive paternalism. Dworkin's criticism of Mill's argument undermines Dixon's and Sailors' use of it to argue for the elimination or reform of sports with high-risk of brain injuries. First, playing football and boxing should be allowed even if their practice results in the elimination of future autonomy. The very choice of engaging in sports like boxing and football is a voluntary one, albeit conditioned by the usual socializing forces and parental influence. Banning the sports would reduce people's autonomy by not allowing them to engage in the kinds of sports that they value. Secondly, Dixon and Sailors should show why a society that limits people's autonomy to practice the sports they like is better than one where individuals can engage in the sports that they find most meaningful. Here Dixon or Sailors might readily look for support in Kant's deontology rather than Millian consequentialism for stronger support. In *On the old saw: that may be right in theory but it won't work in practice*, Kant observes:

"If a government were founded on the principle of benevolence toward the people, as a father's toward his children – in other words, if it were a paternalistic government (*imperium paternale*) with the subjects, as minors, unable to tell what is truly beneficial or detrimental to them, obliged to wait for the head of the state to judge what should constitute their happiness

and be kind enough to desire it also – such a government would be the worst conceivable despotism” (Kant, 1793/2006, 290f).

Moreover, who would do the prohibiting and when? Would one keep a register and determine after X concussive incidents that a player would be forbidden from playing? Or would one somehow censure teams whose players seemed to suffer incidences higher than the norm? Or would it follow on lines of legal paternalism that the activity be banned? Here a distinction between boxing or American football might be relevant. There would be little or no danger of the latter going underground so to speak. But the idea that a sport so loved and woven into the fabric of American society and its institutions might be banned on the grounds that the harms attendant on it so threatened the moral fabric of that society would seem a stretch to put it mildly. This would be tantamount of legal moralism (Devlin, 2009). And we note that none of the authors resorts specifically to this claim. Nevertheless, it would be incumbent on them to argue who would do the prohibiting and with what kind of authority.

In addition, one would have to consider the ramifications of such prohibition, such as the loss of privacy, opportunity costs of social spending on prosecuting and housing offenders, liberty restrictions on those found guilty, crowded courts and even corruption (Schonsheck, 1994). Feinberg (1984; 1985) construes these as harms that have to be balanced against the harms that are the object of potential criminalization. Schonsheck (1994) by contrast argues that such a hypothetical test must pass two filters: (i) the costs of criminalization (understood in a broad way as above) must not outweigh the benefits; and (ii) there should be no alternative to criminalisation. If we are to prohibit American Football, therefore, on the grounds of harm voluntarily entered into we must also evaluate the indirect consequences of it, and consider the fuller picture that gives potential justification to it. We shall consider this case more fully in section (d) below.

b. Other goods argument

Related to the idea that people should be free to choose the kind of lives that they have reasons to value, another criticism of Mill’s argument is that it privileges autonomy over other goods that people pursue in their lives. Notwithstanding this, people might value these other goods more than those related to the exercise of autonomy. For instance, let us suppose that a mother gave up her autonomy for a monetary reward to provide for her underfed children. Should this self-sacrificing exercise of autonomy be condemned? This is a very relevant argument in the issue at stake here. Boxers and football players often come from unprivileged minorities, and they find in professional sports a realistic possibility to have a better life for them and their families, or at least to cultivate a range of virtues or excellences that might be both of inherent and instrumental value. Why should they not be allowed to a certain self-sacrifice to provide their loved ones or dependents with better opportunities?

In line with the idea that some goods other than autonomy might be promoted, those relying on Mill’s argument should show why the value of autonomy trumps other types of goods or values. Slavery and playing football or boxing are significantly dissimilar when it comes to the valuable goods that they can promote. At the very least, sports provide participants with positive goods like discipline, respect for opponents, self mastery, and so on. In broader views of sport, such as Robert L. Simon’s mutualism, sports provide sites for human flourishing by engaging in a voluntarily accepted mutual quest for excellence (Simon et al., 2015). Dixon and Sailors would have to account for these positive goods to utilize Mill’s argument against consensual domination to argue for the elimination of autonomy-sacrificing sports. Moreover, the adequacy of the identification between consensual domination and CTE can be contested by appealing to the temporal character of human goods. As Derek Parfit’s work on identity and psychological continuity shows, it is rational for individuals to prefer to minimize future suffering and allocate greater suffering in the past (Parfit, 2007, §46). In line with this argument, it could be argued that giving up the possibility of enjoying valuable goods in the future in favor of a greater pleasure in the present is justifiable. If this is the case, athletes giving up

the possibility of fully employing some future rational capabilities in exchange of more pleasurable lives in the present may be justifiable. Let us elaborate on this point further.

It is widely agreed that prudence should be temporally neutral (Brink, 2010). Despite its prevalence in actual decision making of ordinary people, a short-term bias is typically considered a failure of rationality, since one privileges one time slice over another for no other reason than its proximity. Now, a number of qualifications are needed here before we move to a strong critique of the assumptions in Dixon's and Sailor's employment of pre-emptive paternalism. First, we are not concerned with interpersonal temporal neutrality; only with intrapersonal matters since what Sailors and Dixon, in particular, have argued against is the later loss of autonomy of the injured athlete. Though they recognize the collateral harm that may ensue to family members, for example, it is not the crux of their position. Thus, it is (to use Feinberg's labels) only harms to the self we are concerned with not harms to others. Secondly, even within intrapersonal neutrality, there has been a discussion after Hume (2014) and Parfitt (2001, 2007) about the unity of our identity. Challenging as these personal identity theses are, we do not consider them here. Rather our focus is on value conflict over time within the individual. More obviously, the issue is the positive value attached to American football participation in the here and now, and the potential future suffering consequent on it.

In his Felicific Calculus (FC), Jeremy Bentham has put forward the view that propinquity (nearness in time) would be a rational basis on which to prefer one pleasure to another (later) one. This might be seen as impulsive more so than rational (as Sidgwick (2012) observes), so the following qualification needs to be made: where welfare accretions or damages are equal, one may rationally prefer the nearer in time, but this will be on the grounds of certainty (a further principle from the list constituting the FC¹).

At least at the point of contractual commencement, the Collegiate and NFL player have a relatively clear conception of the benefits at hand. These will be comprised of scholarships and the avoidance of expensive educational fees in the former case (where - contentiously - sponsorships and direct payment are prohibited) and very substantial salaries accrue in the latter case. And, what of the harms? From the standpoint of existing data, we know that football careers are not especially long ones, though the benefits are substantial, more so in the latter case than the former. Yet we also know that because of recruiting patterns and practices at the high school level, when the lives of young adults are in the balance, that the decision is a precarious one. But precariousness is a weak condition on decision making when one is considering the outright prohibition of a practice as pervasive and subjectively valued as American Football. This seems sufficient to cast serious doubt on the prohibitionist case. Might more philosophically robust grounds be given to the preference of positive goods in the here and now by the adult athletic reasoner?

Despite commitment to the principle of temporal neutrality, Brink (2010, 356) writes that temporal location might be important when it is considered in contexts where the time of a decision will affect the magnitude of benefits and disbenefits:

“So if at some future point in time I will, for whatever reason, become a more efficient converter of resources into happiness or well-being, however that is conceived, then a neutral concern with all parts of my life will in one sense require giving greater weight to that part of my life. Perhaps, in the “prime of life” I have greater opportunities or capacities for happiness. If so, temporal neutrality will justify devoting greater resources to the prime of life. However, this is not a pure time preference for that future period over, say, the present, precisely because the same resources yield goods of different magnitudes in the present and the future. The rationality of this sort of discounting is an application of, not a departure from, temporal neutrality” (Brink, 2003, 356).

In addition to our vulnerability to the contingencies of life and the existence of moral luck, it strikes us that here is a characterisation that is apt for our football playing, brain-injury susceptible, athletes. It is surely uncontentious that at elite levels most sports are time-related goods (Slote, 1983). Our capacities

for athletic excellence are conditioned by our age and related considerations. To use Aristotelian terms, our potential is not fixed over time. Now in some sports a later maturing profile may be possible, just as other forms of competitive structures that allow for age grading of “mature” or “veteran” (in the non-military sense of that word) may adhere. But these do not apply in American Football as currently constituted. It seems then that the average Collegiate or professional player may be justified in maximizing preferences nearer in time since they greatly outweigh possibilities later in life. And, as Brink observes, this is not *pure* time preference, it is a rational estimation of pains and pleasure from the present point of view with a proper regard for the future insofar as one may estimate it. And this rational choice should be conditioned by a balanced view of the state of CTE evidence alongside other epidemiological studies of injuries arising in the sport.

If it is the case that the preservation of autonomy is concerned, it is more than difficult for the slave analogy to be usefully employed by Dixon or Sailors. The slave analogy draws its power from a form of despotism where autonomy is very severely restricted. Yet, all that can be offered in the context of our potentially brain-injured athletes is that they are making unwise choices, or choices that fail to meet the rational test of temporal neutrality. No one can seriously say that the choices are not *theirs*; that this is not *their* mode of living. And this being the case it seems the best that is open to Sailors and to Corlett and Dixon too, is that a soft paternalism may well be merited with respect to the young or cognitively impaired whose decision making may be compromised in relation to short and or long term decisions. But it is quite another thing to justify hard or even legal paternalism. In summary, neither Dixon nor Sailors makes a sufficiently robust case for hard paternalism, and the advert to the slavery analogy is grossly distorted.

c. Mill’s criterion is ambiguous and arbitrary

To further show why Sailors’ and Dixon’s use of Mill’s position on consensual domination, on which Sailors’ claim for the prohibition of football rests, is significantly problematic we shall focus on the arbitrariness of Mill’s argument (Düber, 2015; Dworkin, 2013)². As Mark Strasser (1984) points out, Mill’s condemnation of consensual domination is ambiguous and arbitrary since it does not establish a clear-cut point at which the principle of autonomy allows the limitation of people’s autonomy. For instance, what is the relevant difference(s) between deciding to cross a damaged bridge risking death, and selling oneself into slavery? Is autonomy not equally eliminated in both cases? In line with this criticism, Sailors and Dixon would have to show what the difference between playing football and blows to the head and the practice of high-risk sports like bungee jumping, wingsuit flying, and BASE jumping lies (Spiegelhalter, 2014). For instance, over 11 years and 20,850 jumps, there were 9 deaths and 82 non-fatal accidents among those practising BASE jumping. In the light of these data Frank Lovett argues: “many perfectly ordinary choices that Mill would certainly refuse to subject to social regulation entail reductions in a person’s negative liberty” (Lovett, 2008, 131). Signing an employment contract, accepting a car loan, purchasing a house, getting married, and having children are voluntary actions that reduce our autonomy. Nobody would argue that the practices like labor, marriage, and owning property should be eliminated for the sake of protecting people’s autonomy.

Critics of the use of Mill’s analogy to sports that have a predisposition to brain injury could easily find some relevant differences between the loss of autonomy resulting from consensual domination or brain injuries and that caused by other activities like crossing a damaged bridge, getting a car loan, and forming a family. Dixon, for instance, argues: “[These practices] unlike brain damage caused by boxing [do not impair people’s] ability to reflect on and form values and life plans” (Dixon, 2001, 335). Most of the autonomy-limiting activities presented above are temporally limited or reversible (Lovett, 2008). If agents regret having chosen them, they can always do something to recover their lost autonomy (or degree thereof). In line with this, there are several ways to save from arbitrariness and ambiguity Mill’s analogy of the bridge-crossing-person example. First, it could be argued that risking one’s life is equivalent to the loss of autonomy resulting from selling oneself into slavery. Those who die as a consequence of risking their life do not have the possibility to make free choices anymore. It goes without saying that only those who are alive can. Thus, in high-risk activities, autonomy is not at stake, life is. Secondly, it might be argued that those who engage in a high-risk

activity like BASE jumping have no certainty that their autonomy will be reduced. However, those who sell themselves into slavery are not taking a chance; they know with certainty that they will forego their autonomy. BASE jumpers might not lose their life, but football players and boxers only entertain the possibility thereof as a consequence of their brain injuries.

Here is where Corlett's affirmation "behavioral and brain sciences seem to hold a vital key to the future of football, and perhaps other contact sports" becomes relevant (Corlett, 2014, 134). Even if Mill's argument against consensual domination was insurmountable, and the analogy between suffering severe brain injuries and slavery more solid, it remains to be shown that the blows and jolts to the head certainly lead to a severe reduction of the athletes' autonomy. To what extent is this true? Do we have enough scientific evidence to enforce such a claim? We turn now these ethical and scientific concerns now.

d. How strong is the evidence on which the sought for prohibition exists?

Simon (2015) and Rosenberg (2014) had already noted the lack of causal relationships between significant harms of boxing and mixed martial arts respectively. To respond to the questions posed at the end of the previous section, let us return to the most concise statement of Sailors' position. She writes:

"Given what we know, and are learning, about CTE, choosing to play football is analogous to choosing to be sold into slavery, since choosing football means choosing the likely brain damage that makes later autonomous choice equally impossible" (Sailors, 2015, 271).

Let us take the first condition. It is an epistemic one. Sailors begins her case with reference to the claim, published in 1986 in the *Journal of the American Medical Association*, that American Football is a violent activity in which many injuries are caused. Note that it offers no evidence for what seems a relatively uncontroversial claim. Indeed, the quotation incorporates a claim that there is *no* good evidence "The peer review literature is apparently mute" (Lundberg, 1986 cited in Sailors, 2015, 272) and it hints at a conspiracy of the sports medicine profession.

Equally, calls for the banning of boxing and mixed martial arts have appeared with frequency in the British Medical Association's journal, *The British Medical Journal*, which has also published systematic reviews that do not support the widespread beliefs about long-term brain injuries at least in amateur boxing (Loosemore, Knowles, & Whyte, 2008).

Since that time a vast number of studies of varying power and persuasion have appeared. But Sailors does not cite them. Instead she writes: "Such studies did not begin to appear for another dozen years, but have become increasingly common as the post-mortem brains of more and more former players have been made available to researchers" (Sailors, 2015, 272). What one has to understand here, and which Corlett and Sailor ignore - is that there is deep contentiousness around SRC specifically and brain injury research more generally. Both Corlett and Sailors present empirical viewpoints second hand from a journalistic source, though Corlett is slightly more guarded in his acceptance of their presentation. Yet journalists like any others attempting to get their point across may not always be even handed with the evidence.

Following Corlett, Sailors' preferred source is journalistic (Fainaru-Wada & Fainaru, 2014)³. These journalists select, from the hundreds of articles available, those of the respected Boston neuroscientists McKee and Cantu. Such selectivity is problematic when one seeks to ban an activity (a) over which the science in its conceptual and empirical dimensions is unclear or incomplete especially with respect to long term effects; and (b) that millions partake in or have partaken in and/or spectate on. A fairer way to proceed, indeed a more analytic way forward, would be to consider a broader range of scientific evidence. This would be typically done by looking at systemic review (eg McCrory et al, 2017, which is discussed below), or even metareview articles, that synthesize research with similar hypotheses and rigorous methodologies in order to bring more powerful data to the table and contrast and compare it meaningfully (Meeuwisse et al., 2017). Certainly, none are as damning

or unequivocal as Fainaru-Wada and Fainaru (2013). But before we draw peremptory conclusions there must be clarity at a conceptual level. What clarity and consensus is there regarding sport related concussion (SRC) and CTE?

The counterpart to philosophical, conceptual vagueness within medicine can be called medical epistemic uncertainty. It is widespread in general medicine (Fox, 2000) and more so in sports medicine (Malcolm, 2009). Given that the causes and conceptual contours of SRC itself is contested we should not be surprised to learn that the concept of CTE is of even greater ambiguity. Moreover, the pathological efforts to describe and diagnose it, as well as efforts to treat it are deeply contested.

Clinicians in sports medicine have tended to be vague about the precise nature of what is referred to as mild traumatic brain injury (mTBI) (McCrory et al., 2013; Slobounov, Teel, & Newell, 2013). Signoretti et al (2010) claim that, “there are still no standard criteria for the diagnosis and treatment for this peculiar condition.” They outline two alternative approaches to mTBI. The first, which they refer to as the dominant theory, understands mTBI as “diffuse axonal/neuronal injury” which is divided into the direct mechanical trauma (contusions, haemorrhaging, lesions, lacerations, etc) and subsequent non-mechanical effects such as swelling, biochemical changes, and so on, that may not develop for hours or even days afterwards. They argue that the lack of lasting neuronal pathology renders this conception weak or at best inconclusive since lasting clinical symptoms are not present “in the vast majority of patients.”

In contrast to this theory, based on the idea of cell death, is one predicated on the idea of “temporal neuronal dysfunction, the inevitable consequence of complex biochemical and neurochemical cascade mechanisms directly and immediately triggered by traumatic insult” (Signoretti et al., 2010, 1). They also argue that it is unclear how repeated insults to the brain affects neuronal health (Vagnozzi et al., 2010), though clinicians have worried about this for a long time and refer to it as “second impact syndrome” (Vagnozzi et al., 2010). Nor is it clear whether, and to what extent, successive blows compound the original injury, nor for what time the brain of the athlete is compromised by the original blow and thus especially vulnerable to further insults to the brain. In a series of articles Vagnozzi et al (2005, 2008, 2010) even refer to the phenomenon of the “vulnerable brain” – indicating a window of recovery for up to 30 days until athletes may be symptom-free. This may be especially important since the efficacy of diagnosis may seriously compromise the athlete’s present and future health (Vagnozzi, 2010). CTE is most likely related to this latter conception of vulnerability.

Now while this brief excursion into brain injury science is doubtless limited from a clinical and scientific viewpoint, it gives clear indication that the existing levels of clinical and scientific confidence. SRC which is seen as a potential precursor to CTE is an emerging area of neuroscience and sports medicine. Until recently, same-day return to play was permitted in American Football (McCrory et al, 2013) which indeed seemed to lack sufficient attention to the duty of care that sports physicians owed their athletic patients, and which seems a proper ethical justification for intervention (McNamee et al., 2015; McNamee, Partridge, & Anderson, 2016; McNamee & Partridge, 2013; Partridge, 2014). Fortunately, the most recent of the 5 global consensus statements (McCrory et al 2017) has now closed this loophole and recommended the impossibility of same-day return to play for athletes who suffer a concussive episode in a sports event (McCrory, 2013).

In the same 2017 Consensus Statement, the authors conducted a systematic review that screened 60 000 articles regarding SRC. Specifically with respect to CTE they report that:

The potential for developing chronic traumatic encephalopathy (CTE) must be a consideration, as this condition appears to represent a distinct tauopathy with an unknown incidence in athletic populations. A cause-and-effect relationship has not yet been demonstrated between CTE and SRCs or exposure to contact sports. As such, the notion that repeated concussion or subconcussive impacts cause CTE remains unknown. (McCrory et al 2017:7)

To be fair, Corlett takes the uncertainty of the evidence more seriously than Sailors though neither fully discounts it. Additionally, it should be noted that the process of appointing expert authors of the Concussion in Sport Group (CISG) has not been without criticism of potential conflicts of interest (Johnson, Partridge, & Gilbert, 2015; McNamee, Partridge, & Anderson, 2015). It seems prudent, premised upon this uncertainty, that the precautionary principle be applied, and that players are removed from the field of play following a head injury and an appropriate SRC protocol or test. Thus following a head injury there are overwhelming reasons to insist on the removal from the field of play when a head injury occurs despite the subjective reports from the athlete that they feel well enough to carry on. And with children or youth athletes, given the plasticity of their maturing brains there is stronger reasons to mandate the deployment of a child/youth specific protocol or test, and enforce a longer rest period of enforced rest before re-entry following a cessation of symptoms (McCrary et al, 2017)¹. This soft paternalism is strongly justifiable. Nevertheless, proposing to prohibit the activity *en masse* on the basis of the journalistic presentation of two respected neuroscientists (among many) in what is a deeply contested scientific field, is more than a step too far. Indeed, it *may* turn out that CTE is caused by current training and performative aspects of sports like American Football but to eliminate or prohibit them entirely is to engage in a paternalism that requires more robust evidence and argument.

What may be justifiable is a kind of “procedural paternalism” (Fateh-Moghadam & Gutmann, 2014), that is a form of paternalism that mandates a particular procedure. In recognition of a growing concern, and in the absence of consensus as to the harms caused by brain injuries (notably successive SRCs) temporary intervention may be justified to establish a procedure to establish the conditions of comprehension of the choice to participate. But, again, this falls well short of any justification required to eliminate or prohibit the sport, as Corlett and Sailors argue. That the choice to entertain such risks is the athletes’, albeit one conditioned over years of participation, sacrifice, opportunity costs, limitations and influences of various other kinds. Nevertheless, it is a stretch to suggest that the choice to engage in the activities is so wrongful as to be that of engaging in voluntary enslavement or so necessarily harmful as to justify prohibition, and the other personal, economic and social costs that would entail.

Clearly, what is justified at the present time is a significant investment into the education of players, coaches and parents (McNamee et al., 2015; 2016) as well as further basic and applied research into head impacts and jolts. What is also required is a serious consideration of the scientific and medical evidence in a manner where conflicts of interest are mitigated and if possible removed (Partridge, 2014). Equally, rule reforms might be considered for American Football such as those that have occurred in Rugby to outlaw tackles that do not involve wrapping the arms of the tackler around the tackled, rather than merely colliding with them. Stricter rules and enforcement of sit out periods (Johnson, et al 2015) and no return to play on the same day as concussive incident (belatedly recognised in the last Concussion Consensus Statement (McCrary et al, 2017) will each add to the harm mitigation of the football player, and those engaged in other sports that create a space for brain injuries, by virtue of the nature of the conflict they enable. Moreover, given the seriousness of the case at hand, a moratorium of kinds, perhaps especially for younger athletes, might be called to allow for these and other revisions to take place.

Conclusion

In this paper, we have criticized one of Corlett’s central arguments around the elimination of American Football, and subjected to strong criticism Dixon’s and Sailors’ claim that sports with high

¹ The protocols have developed over the years of the Consensus statements including more heightened protections for children and youths, those these were always more strict than for adults. See McCrary (2017) for details of the relevant protocols.

risks of brain injuries should be reformed or eliminated, respectively on the grounds of pre-emptive paternalism. Dixon and Sailors draw on the Millian moral condemnation of consensual domination. They argue, respectively, that when boxers and football players voluntarily decide to take part in their sports, they give up the very capability that enables them to make such autonomous choices, namely, rational decision-making abilities. According to Sailors and Dixon, by voluntarily giving up their future autonomy, these athletes engage in a performative contradiction and eliminate the very quality – autonomy – that is the ground of their rational choosing. Therefore, since playing football and boxing go against the element upon which people’s moral worth is built, the sports should be reformed or banned. Dixon argues for the reform of boxing by eliminating blows to the head. Sailors argues similarly in the case of football. Moreover, since she thinks that reforming football to eliminate the occurrence of CTE is impossible, the entire practice of American Football should be banned.

We have presented four arguments to contest the validity of Dixon’s and Sailor’s arguments. First, the use of Mill’s idea that selling oneself into slavery precludes all future autonomy. An autonomy respectful view, however, would only conclude that human beings should be allowed to pursue the kind of lives that they have reasons to value, even if that involves consensual domination. Secondly, we have argued that the nature of the goods people pursue in their lives might justify foregoing (degrees of) future autonomy. Thirdly, we have shown that Mill’s argument against consensual domination draws on ambiguous and arbitrary distinctions. Dixon and Sailors need stronger arguments to ground Mill’s distinction for the slavery analogy to be employed decisively. Even if it was proven that Mill’s analogy is apt, and that human beings should not be allowed to trade their future freedom for present pleasure, we challenge the empirical assumption that CTE-related injuries are equivalent to consensual domination. To do so, fourthly, we have highlighted the lack of consensus and empirical evidence regarding the long term SRC consequences and their relationship to CTE. We conclude that the proposals from reforming or eliminating sports with high risks of brain injuries are at present not well founded.

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Notes

¹ Of the FC specifically, one might further consider the fecundity of the activity, though we do not do that here.

² Corlett's position is less damaged by this problem and is more circumspect. He writes: "...even if it turns out that medical and brain sciences reveal that CTE is caused by football and other high- contact sports, it is unclear that a paternalistic argument counts as a sufficiently good reason to prevent informed and consenting adults from participation therein" (Corlett, 2014, 124). Thus, on hard paternalistic grounds, Corlett neither rules prohibition in or out. Nor does he offer reasons why he equivocates. However, he does argue that soft paternalistic interventions may be merited over children, on Millian grounds, but he gives no details as to how this might be operationalized. On whether this would take the form of a legal intervention, with the problems we have averted to, or merely rule based reforms (or any other option in between), he is silent.

³ On a point of accuracy, Corlett cites one more journalistic source: Farrar (2012) but that hardly strengthens his case.