



Journal of
Theoretical & Philosophical Criminology

January, 2015, 7, 97-109

Is Biosocial Criminology a Predisposition not to Learn from the Social Sciences?

Nicolas Carrier, Carleton University
&
Kevin Walby, University of Winnipeg

One common claim made in contemporary biosocial criminology is that the biosocial model promises a full scientific revolution (or paradigm shift) in criminology, but that criminology overall resists biosocial interventions because of ideological allegiances to sociology. Biosocial criminology perceives criminological discourses that do not draw from biology as ideological rather than scientific productions. In our article 'Ptolemizing Lombroso: The Pseudo-Revolution of Biosocial Criminology' (Carrier and Walby, 2014), we offered a strong critique of biosocial criminology, in which we demonstrated that the failure of the biosocial model to establish itself as core explanatory framework in criminology and in social science is not a symptom of ideological resistances. In this volume of the *Journal of Theoretical and Philosophical Criminology*, two contributions from biocriminologists attempt to respond to our critique. Despite their many differences, notably in the level of rigor and academic integrity with which they engage our article, the fundamental message of both texts is the same: 'we do real science, you are mere ideologues'.

On one hand, the biosocial model is premised on the notion that biology and sociology ought to be united to allow for the development of a true scientific criminology. On the other, sociological perspectives in criminology are routinely disparaged by proselytizers of the biosocial model for being ideological. The result of this conundrum is the following: biosocial criminology integrates social elements in its etiological speculations in a postpositivistic¹ and quantified way, which erases meaning and produces a scientific self-referential reality that bears little resemblance to the social worlds experienced and acted upon by the studied individuals *qua* organisms. Indeed, our article 'Ptolemizing Lombroso' showed the many ways in which biosocial criminology is bluntly antisocial.

In their responses in this volume of the *Journal of Theoretical and Philosophical Criminology*, biocriminologists join voices to suggest that our analyses are invalid "rhetorical trickeries" (Heylen et al., 2015, p. 2). They present their responses as scientific defenses of biosocial criminology contrary to the ideological

¹ Heylen et al. (2015) correctly note that it is a mistake to associate, as we did, Popper with neopositivism. *Mea maxima culpa*. What we discussed in terms of neopositivism in 'Ptolemizing Lombroso' is better characterized as postpositivism. We showed that biosocial criminology generally embraces a Popperian postpositivist conception of science, with its criterion of falsifiability. Our slip can be interpreted as resulting from the fact that many biocriminological propositions we dissected in our critique still abide by the criterion of verificationism.

jumble that 'Ptolemizing Lombroso' is claimed to be. Among the many questions raised by these two responses is whether biosocial criminologists can make sense of social scientific communications. These responses suggest that biosocial criminology can be characterized primarily by a predisposition not to learn from social scientific observations.

In 'Rage Against Reason: Addressing Critical Critics [sic] of Biosocial Research', Walsh and Wright (2015) submit that our analyses in 'Ptolemizing Lombroso' testify to our grasp of contemporary academic biosocial literature, but that our critique is an attempt to "delegitimize science [we] politically and ideologically don't approve of" (p. 20). In 'Defending Biosocial Criminology: On the Discursive Style of our Critics, the Separation of Ideology and Science, and a Biologically Informed Defense of Fundamental Values', Heylen *et al.* (2015) submit that our arguments are based on a strategic misrepresentation of biosocial literature, resembling a moralistic form of propaganda. Walsh and Wright (2015) assert that we are leftist moralists fantasizing about the biological equality of all humans, whereas Heylen *et al.* (2015, p. 20) assert that biosocial criminology is a defender of equality. Conflicting assessments of our mastery of contemporary biosocial criminology and inconsistent representations of a key claim of biosocial criminology are used to suggest we are normative subjectivists rather than scientific objectivists.

In 'For Sociological Reason: Crime, Criminalization and the Poverty of Biosocial Criminology' (Carrier and Walby, 2015), we reply *in toto* to Walsh and Wright (2015). We show how they - like Heylen *et al.* (2015) - dodge every critique we levied against the biosocial model, and how they are unable to mobilize the supposedly universal biosocial model to make sense of its inability to become the one and only criminological approach. In other words, biosocial criminologists assert that any explanation of social practices that does not include biology is ideological, but then proceed to explain our critiques of biosocial criminology as pure ideology. As such, they are mobilizing the very 'standard social science model' (Tooby and Cosmides, 1992) that they disqualify as ideology. Here we concern ourselves only with the defense of biosocial criminology mounted by Heylen *et al.* (2015), although Walsh and Wright's response suggests the same predisposition against learning from critical observations made by social sciences that take criminalization and punishment as their objects of study.

On the Dogmatism of Biosocial Criminology

Heylen *et al.* (2015) open their response to 'Ptolemizing Lombroso' by lamenting that sociobiology and biosocial criminology have been the sites of controversies because of acrimonious critiques forwarded by more critical social scientists. These authors problematize "fundamental debates", "controversy", "harsh accusations" and "polemic" on the grounds that such deliberation might "install a certain reluctance in, especially young, criminologists to embrace biosocial approaches" (p. 1). We would agree that "harsh accusations" - such as Heylen *et al.* (2015, p. 19) likening our work to a kind of Hitlerian propaganda (see below) - are unproductive. But suggesting that biosocial criminology should not be the focus of critique because it might make it less attractive is a nauseating form of entrepreneurship. We suspect that biosocial criminologists such as Heylen *et al.* (2015) would mock the same discourse if it was advanced by, say, proponents of institutional anomie theory (Messner and Rosenfeld, 2001). This idea proposed by Heylen *et al.* (2015) that criminology, or any social science for that matter, should avoid debates, controversy and polemic sounds like a perfect recipe for dogmatism.

This opening of their response suggests that biosocial criminology amounts to a predisposition not to learn from sociology. Indeed, one line of critique developed in 'Ptolemizing Lombroso' was that the Kuhnian model of 'normal science' is impossible within the social sciences, because their foundational schemes of analysis are plural and conflicting; they cannot be limited to the causal scheme of analysis that informs the biosocial model. In our conclusion, we suggested that biosocial criminologists tend to appeal to the scientific quality of the biosocial model, "and to dismiss all other criminological practices as ideological (without being able to observe their own performative contradiction)" (Carrier and Walby, 2014, p. 29). The two responses published in this volume of the *JTPC* confirm our criticisms, and allow us to more effectively examine whether biosocial criminology is predisposed not to learn from criminological truth claims that are not premised on its own postpositivistic, behaviorist framework. Is there a better way to conceptualize dogmatism in social sciences than the practice of interpreting any form of critique as ideology?

The dogmatism of biosocial criminology stems from its ambition to erase the distinction between social and natural sciences, reformatting the former in the image of the latter, and dismissing any social scientific practices that do not follow suit. To reiterate what we empirically demonstrated with nuance in

'Ptolemizing Lombroso', the proselytizers of biosocial criminology try to impose a model that represses rather than confronts the homological structure of meaning production within and outside science. In other words: the dogmatism of biosocial criminology pertains to its coding of explanatory sciences as the only avenue for the social sciences, and to its coding of comprehensive sciences as an ideological, *i.e.* non-scientific, path. In the discourse of the proselytizers, this corresponds notably to a process of scientific "self-correction" in criminology (Ferguson and Beaver, 2009, p. 287). Wright and Boisvert (2009) likewise argue that "criminology has historically maligned biological perspectives despite the scientific rigour of the biological sciences" (p. 1218), and despite criminology's apparent lack of scientific rigour without the biological sciences.

If in natural sciences it is difficult to imagine scientific communications tolerating radically inconsistent explanations in the long run, the interpretive plurality found in social sciences does not imperil them. This plurality is problematized mainly by those adopting an epistemological posture identical or similar to that of contemporary biocriminologists, whereas others like us see no pathology in the absence of a single, consensual, 'normal' theoretical framework that could be used to interpret such disparate practices and processes as penal intensification, the building of new carceral spaces, the infiltration of activist groups by police forces, a riot following alleged police misconduct, the zealous criminalization of Indigenous people in white settler societies, the ways in which forms of violence are enacted and experienced in a given cultural group, practices of intravenous illicit drug uses in urban cores, targeted political assassinations of citizens, juridical reasoning in case law pertaining to legal paternalism, practices of transformative justice involving authors of gender-based sexual violence, strategies of crime prevention through environmental design, corruption, vigilantism, the evolution of correctional regimes, sex work in rural settings, suicides in carceral spaces for youth, the legal, political, scientific and cultural constructions of dangerousness, claims that biosocial criminology is revolutionary, etc. This list could be expanded *ad infinitum*. Biocriminologists can attempt to claim that the biosocial model, being allegedly universal, should be mobilized to study all practices and processes. But the model cannot be used to explain why such a claim is not accepted across the social sciences or in criminology specifically, which invalidates its appeal to universality.

Critiques, Accusations

After their bizarre plea for a criminology averse to debates, Heylen *et al.* (2005) attempt to disqualify all of our critiques of contemporary biocriminology by suggesting that we are moralists, and that we are accusing individual scientists of moral wrongs. They submit that we refuse "any kind of empirical framework" (p. 12), that we do not substantiate our claims with evidence, and that we propose "a discursive construction that bears no relation to contemporary biosocial criminology" (pp. 2-3). Mobilizing Cohen (2001), they suggest that we are rhetorical tricksters relying on 'direct accusations' (X did that), 'implicatory accusations' (X's claim might be right, but it is nevertheless a claim that should not be made because it has potentially nefarious implications, notably in the realm of policy), and 'interpretive accusations' (when X says this, in fact X means that). For instance: suggesting that biosocial criminologists are racists would be a case of direct accusation; suggesting that biosocial truth claims are dangerous because they could revive political interest in negative eugenics would be a case of implicatory accusations, and; suggesting that the biocriminological study of the contribution of biology in criminalized behavior means that biosocial criminologists are looking to discover a 'criminal gene' would be a case of interpretive accusation. We did no such things.

We are baffled by the claim that 'Ptolemizing Lombroso' lacks any empirical grounding. Our critique was based on a careful reading of countless publications of biocriminologists. We cited more than 60 different articles, book chapters and books to substantiate our claims. This *is* empirical material (also see Becker and Wetzell, 2006). We are convinced that a competent reader will see that the critiques developed in 'Ptolemizing Lombroso' are substantiated. Walsh and Wright (2015) happily noted that, for a change, critiques of biosocial criminology were formulated by scholars with a non-rudimentary understanding of the biosocial model, and a non-rudimentary knowledge of contemporary biocriminological literature. Walsh and Wright (2015) feel our problem is that we are politically opposed to biosocial practices (see Carrier and Walby, 2015), whereas Heylen *et al.* (2015) assert that our critiques convert these practices into moral wrongs through direct, implicatory and interpretive accusations. They understood that our assessment of biosocial criminology is negative, but propose "productive misreadings" (Teubner, 1993) through which the deficiencies of contemporary biocriminology, which a constructivist sociological perspective makes visible, are transformed into moralizing tropes that seem to preclude them from learning. Let us take a closer look at their dismissal of our critiques, turned into accusations.

Direct Accusations

Contemporary biocriminologists are accustomed to facing direct accusations of being racists and sexist (among other slurs). 'Ptolemizing Lombroso' documented some of the ways in which they react to such accusations, as well as claims that the biosocial model, as used in criminology, is no longer racist. For instance, some biosocial criminologists (e.g. Walsh, 2000, p. 1098) have submitted that part of the resistance towards the biosocial model in criminology is due to the model remaining largely, and wrongly, seen as a Trojan horse for racism and fascism. Such reasoning also animates Heylen *et al.* (2015) response, condemning 'Ptolemizing Lombroso' for misrepresenting contemporary biocriminology. Yet, no aspects of our critiques were based on the idea that biosocial criminologists are simple bigots. Instead, we *showed* that the ideology of the immaculate data embraced by biosocial criminology relies on an ontologized conception of race used within a reductionist, behaviorist, antisocial, postpositivistic, etiological criminology, which makes it sociologically easy to understand why they are accused of being racists. Reductionism, behaviorism, postpositivism and antisociality are, from a sociological perspective, key problems in contemporary biocriminology, as 'Ptolemizing Lombroso' established on the basis of examining contemporary contributions in biosocial criminology. Rather than trying to show how we are mistaken, Heylen *et al.* (2015) claim that we directly accuse contemporary biocriminology of being reductionist, behaviorist, postpositivistic and antisocial. Yes, we do. We also explained why such elements are unpalatable for many forms of criminology, *i.e.* we formulated a critique focused on the model used by contemporary biocriminologists, inviting them to prove us wrong or to rethink their theoretical framework. Heylen *et al.* (2015) fail to do either.

Implicatory Accusations

Heylen *et al.* (2005) find us guilty of implicatory accusations, of which they provide three examples. First, they correctly note we argued that biosocial criminology is an attempt to limit scientific criminology to a biologically informed etiological framework in the explanation of ontologized criminal behavior. This is the core thesis of 'Ptolemizing Lombroso: The Pseudo-Revolution of Biosocial Criminology', as we showed that only minor twists are made to the Lombrosian project. For instance, one such twist is "replacing determinism with a weighted [environmentally] contingent biological programming ('predisposition', 'susceptibility', etc.) to do harm" (Carrier and Walby, 2014, p. 17). So what implicatory accusations are we guilty of? According to Heylen *et al.* (2005, p. 25):

The fear of Lombroso is a recurrent one, and biosocial criminologists have always resisted identification of contemporary biosocial theory with Lombroso (Walsh & Beaver, 2009, p. 11) or eugenics altogether. However, it must equally be clear that the policy implication of biosocial approaches is just as much eugenics or Lombrosian as the policy implication of social learning theory is for people not to be allowed to have friends.

Is the problem the idea that contemporary biosocial criminology amounts, despite its revolutionary claims, to a mere Ptolemization of Lombroso? If this is so, then why are Heylen *et al.* (2015) not engaging directly with our critiques, instead of implying that we imply that biosocial criminology implies eugenics? The second example of implicatory accusation provided by Heylen *et al.* (2015) is our quotation of Walsh and Beaver (2009), who see in the adoption of "biologically informed environmental approaches" the only viable path for scientific criminology. Heylen *et al.* (2015, p. 5) oddly assert that this infers a Lombrosian essentializing of "the criminal".

Third, they find us guilty of implicatory accusation for summarizing some of the social benefits that proselytizers of the biosocial model in criminology evoke. We referred to the celebrated promises of the "precocious detection of, and intervention on, the dangerous few", and the limitations of "blunt retributivist

punishments” that biosocial challenges to the juridical notion of responsibility would enable (Carrier and Walby, 2014, p. 8).² In the eyes of Heylen *et al.* (2015, p. 6): “the third example states that another implications (sic) of biosocial criminology is a kind of essentializing of “the criminal” (...) such an implication is [a] direct derivative of Lombrosian thinking, looking for the “criminal man””. The problem here is that Heylen *et al.* (2015) end up criticizing the ontologization of the criminal in trying to dismiss our critique of the ontologization of the criminal. Our critique is not an implicatory accusation:

The Ptolemization of the Lombrosian project not only means that contingently activated biological programs replace blunt determinism, but that discrete and finite zoological categories (such as the contemporary iterations of “criminal man” that “life-course persistent” criminals and “psychopaths” represent) now co-exist with a continuum of biological criminogenic propensities, on which all organisms could, logically, be distributed. Besides these two minor modifications, it is *only technologically* that contemporary biocriminology can be distinguished from the work of *La Scuola Positiva* (Carrier and Walby, 2014, p. 18).

Interpretive Accusations

Although ‘Ptolemizing Lombroso’ is claimed to display interpretive accusations “throughout the text very often”, being replete of re-interpretation of “the words of authors in the field of biocriminology to mean things they eventually have not really said” (Heylen *et al.*, 2015, p. 6), we stand accused of only one interpretive accusation. We wrote that “contemporary biocriminologists assert that asking whether biology plays a role in criminal behavior is “no longer interesting,” as the pressing question would now be to weigh the contribution of various bodily economies (Raine, 2008, p. 323)” (Carrier and Walby, 2014, p. 10). We coined the notion of bodily economies to grasp how parts, layers, sections, processes, flows of human bodies are extracted, isolated, and visualized by biocriminologists (Walby and Carrier, 2010). In the quote that Heylen *et al.* (2015) assess, we indicated that for biocriminologists, the question as to whether biology should be seen as contributing or not to criminal behavior is “no longer interesting” (Raine’s words). Now the focus is on quantifying the role of different parts, processes, layers of the body. So what is the problem? Heylen *et al.* (2015, p. 7) see in the notion of bodily economies a term “heavily charged towards a presumed determinism which the authors see in biosocial criminology”. They are even creative enough to see in the problematized quote an interpretive accusation of determinism: Raine would be proposing a “very more nuanced and realistic image than the Lombrosian deterministic picture Carrier and Walby want their audience to believe biosocial criminology is” (p. 7). The reader already recognizes we appreciate that contemporary biocriminology is not deterministic. The shoddy scholarship in this response follows in the footsteps of one of its authors, Kevin M. Beaver, who previously cited our work (Walby and Carrier, 2010) as evidence that “biosocial criminology has begun to gain a significant amount of traction as an important perspective from which to explore the possible causes and correlates to antisocial behaviors” and that “[b]iosocial criminology is an emerging perspective in the field of criminology, and already it has begun to make some significant contributions to the understanding and explanation of criminal and delinquent involvement” (Beaver and Chaviano, 2011, p. 82, 91).³ This assertion is totally erroneous but typical in some biosocial criminology.

² Contemporary biocriminologists are quite candid about the implications of their findings. It is merely describing their discourses - rather than formulating implicatory accusations - to say that biosocial criminologists suggest that their truth claims challenge *mens rea* and *actus reus* to the point where biosocial criminology will force an overhaul of criminal law (see Vincent, 2010; Appelbaum, 2005; Jones, 2003; Denno, 1988). Robinson (2009) also pointed out that some biocriminologists have advocated for the State delivery of license to reproduce in order to prevent crime. In his *The Anatomy of Violence: The Biological Roots of Crime*, Raine (2013) suggests that in 20 years, a complex system of crime prevention could be organized following the truths of biocriminology. In fact, Raine evokes LOMBROSO - Kerr’s (1994) acronym for a fictional ‘Legal Offensive on Murder Brain Research Operation for the Screening of Offenders’ - which notably includes a system of licensing for reproduction.

³ These deeply misleading assertions were published in the *Journal of Contemporary Criminal Justice*. In an online supplement to the 1st issue of its 27th volume, the Journal published, in lieu of an *erratum*, a short text (Carrier and Walby, 2011) in which we revealed the carelessness of Beaver and Chaviano’s scholarship. Our

Contemporary Biocriminology and the Problem of Normativity

In the second section of their response, Heylen *et al.* (2015) make a series of claims about scientificity, methodological sophistication, and objectivism. In developing the mantra 'we do real science, you are mere ideologues', their response again suggests a predisposition not to learn from the social sciences. This predisposition seems to be rooted in how the authors distinguish between "the social scientific domain versus the ideological or normative domain" (p. 10), specifically in submitting that the empirical referent of the concepts mobilized in biosocial criminology is non-normative. According to Heylen *et al.* (2015), the study of the evolution of criminalization operates in an "ideological-normative domain", whereas the explanation of crime is conducted from an "empirical-scientific domain" (p. 10). They claim biosocial criminology, as a scientific approach, "merely beholds a behavior as a behavior without any moral judgment" (p. 11). They suggest that biosocial criminology is non-normative when it establishes that some bodily economies are 'dysfunctional', 'pathological' or 'insufficient', because it would only describe a deviation from ... the norm. And they suggest that "prejudiced behaviors" exist factually, "without any moral judgment" (p. 11).

'Ptolemizing Lombroso' documented the ways in which biosocial criminology normatively approach the biology of individuals *qua* organism - for instance, suggesting that some categories of organisms have problematically been left "under-pathologized" (Burt and Mikolajewski, 2008, p. 427) - but also how it has a moralistic take on the behaviors it tries to explain. The response penned by Heylen *et al.* (2015) illustrates the behaviorism and the ideology of the immaculate data we condemned.

It is easy to establish that what is among the most normative criminological endeavor, abolitionism, rests on a more satisfactory epistemology than the naive realism espoused by Heylen *et al.* (2015) and other biocriminologists. Abolitionists desire to end either the use of incarceration or any form of retributive punishments, and some are motivated by an anarchistic framework in which criminalization and punishment are only epiphenomenal targets of wider struggles (Carrier and Piché, forthcoming; Walby, 2011). Abolitionism has nothing to do with the explanation of crime, because the idea that crime is simply a behavior is assumed to be the main delusion of orthodox forms of criminology (Hulsman, 1986). All we can observe are situations that are problematized, sometimes through a logic of criminalization: the empirical referent, to use the terms employed by Heylen *et al.* (2015), is not the behavior of an individual *qua* organism. Studying processes of criminalization is a more objective epistemic goal than trying to 'explain' crime through the 'nature via nurture' framework. Abolitionists suggest that criminalizing and punishing are unjust, unproductive ways to react to problematized situations. One does not need to adopt this normative posture to see that an abolitionist criminology is empirical-scientific in the sense contemplated by Heylen *et al.* (2015) and that, moreover, it eschews the epistemic blindness generated by the simplistic epistemology of biosocial criminology (Carrier and Walby, 2014). Furthermore, defenders of the biosocial model in criminology adopt a normative conception of science where interpretations proposed by comprehensive perspectives have no place: it cannot be established otherwise than normatively that social sciences ought to be nomothetic. The quest for "universal laws" only makes sense within a given conception of the social sciences, which cannot be universalized except on ideological grounds.

This predisposition not to learn that biosocial criminology seems to exhibit partly rests on its inability to understand that the epistemologically sound criminological object is not crime nor criminality, but criminalization. If what is at stake is a study of *crime as it exists for society* - if criminology is to remain a *social* science - then what ought to be analyzed are not environmentally contingent biological programs, but processes through which situations are problematized by the grammar of criminalization (Carrier 2011, 2008). In other words, society presents epistemic sites where criminalization is enacted, and this enactment can exist socially only insofar as it is communicated. One might think this or that, but thoughts do not exist in, or for, society; only communicational representations of activities of consciousness can have a social existence (Luhmann, 2013, 2012). Science, law, politics, education, religion, economy as well as countless social interactions are examples of differentiated sites in which crime is constituted (described, explained, condemned, celebrated), but always idiosyncratically. Any basic attention to symbolic reality - which, obviously, can be studied empirically - reveals that what crime is for law is not what it is for politics, for science, let alone for the billions of human animals populating the planet.

text has now disappeared from the Journal website. The Journal has neither corrected nor removed Beaver and Chaviano's text.

The constructivist epistemology we applied to show the limitations and aporias of biosocial criminology led us to suggest that it is a model ill-suited for studying the complex processes of meaning production that criminalization entails. Heylen *et al.* (2015) suggest that criminology ought to study the emergence and maintenance of norms with how and why questions, rather than deciding which norms are good. We agree, but we do not understand why they previously suggested that to study the evolution of criminalization is to locate oneself into a “normative-ideological domain”. They suggest that we misrepresented biosocial criminology in portraying it as obsessed with etiology and blind to criminalization, “for biosocial approaches actually provide a solid framework in the study of norms and their maintenance” (p. 12). They also provide a list of publications in an attempt to prove this claim.

When we first read this list, we were excited! We are familiar with evolutionary approaches, but perhaps we missed contributions that provide keys to understanding how criminal laws emerge, evolve, and are used? Could it be that some biocriminologists are studying what we argued was impossible given the postpositivistic, reductionist, behaviorist, and antisocial qualities of the biosocial model in criminology? We rushed to consult the work cited. And we quickly realized that it is totally useless if one takes criminalization and punishment as its objects. Our assessment was correct after all: the biosocial model is sociologically inept. One major problem in the literature that Heylen *et al.* (2015) cited (Bernhard, Fischbacher and Fehr, 2006; Bowles and Gintis, 2004; Elster, 1998; Fehr, Fischbacher and Gächter, 2002; Henrich and Boyd, 2001; Jensen, 2010; Mathew and Boyd, 2011; Nowak and Sigmund, 2005) is that it corresponds to experimental studies on, or speculations about, punishment and cooperation (treated as if they were oppositional concepts) between individuals or small-scale groups, with no attention paid to the institutionalization of law, its evolutionary internal differentiation (notably between criminal and civil law), the growth of apparatuses of control, and the complexity of society itself, all of which bear no resemblance whatsoever to the scenarios mobilized by evolutionary psychologists and economic behaviorists. Studies using ultimatum games, public goods games, prisoner’s dilemmas and other scenarios are fascinating. But speculations or deductions about, for instance, “the long-run interest of organisms” (Fehr, Fischbacher and Gächter, 2002, p. 2) to punish or not norm violators cannot help us investigate or theorize institutionalized processes of criminalization and punishment, nor do they provide any insight about how the idea of norm violation is assembled socially.⁴

Condescendingly, Heylen *et al.* (2015) referred us to Bowles and Gintis (2004) to try to claim that biosocial criminology can help us understand criminalization and punishment in today’s society. Yet the model used in this study of “strong reciprocity” (collective benefit from respect to a social norm) is actually “the structure of interaction among members of the mobile hunter-gatherer bands in the late Pleistocene” (p. 17)! They make the same error by referring us to Matthew and Boyd (2011), a study of an East African social group totally lacking in “centralized institutions of leadership or coercive authority” (p. 11375). Another reference offered to us by Heylen *et al.* (2015) makes it clear that the way in which punishment is defined by biologists (*i.e.* functionally) has no sociological value, “by focusing on the costs to the punisher as well the target, and by excluding institutions and norms such as laws” (Jensen, 2010, p. 2637). Will a contemporary biocriminologist seriously try to explain punishment through the assessment of its fitness cost for criminal law?

Heylen *et al.* (2015) contend that we are allergic to any kind of existing reality and that, by contrast, biocriminologists like them work with “what actually is there” (p. 14). But they refer us to a list of studies on what *is there* in the ‘laboratory’ of some researchers, using models that cannot be compared to sophisticated, plural regimes of criminalization and punishment. Some biosocial studies use lab mice as proxies for humans, attempting to make claims about human criminality (Buckholtz and Meyer-Lindenberg, 2008; Janssen *et al.*, 2005). These settings do not comprise some reality out there but rather are contrived, manufactured, and non-human responses, from which some claims about some reality are then excised. Human organisms continue to evolve biologically, and this is obviously an object amenable to scientific study. Where contemporary biocriminology disappointingly fail is in advancing even a rudimentary understanding of how the evolution of human biology is implied in the evolution of social systems like law, the mass media, religion, politics, economy and science, which all contribute to construct social realities by means of criminalizing discourses and representations.

Let us take the example of the social system of law: one solution for biocriminologists could be to suggest that we should study law as a biological organism. We have no idea how such a claim could be

⁴ Similarly, many studies of animal behavior are fascinating, and we would regard as uncontroversial the claim that some non-human animals engage into proto-symbolic ‘policing’ activities. Problems emerge when such claims are used non-metaphorically to ‘explain’ institutionalized social practices such as policing in North America today.

seriously sustained. Another solution could be for biocriminologists to mobilize their reductionist, behaviorist, and antisocial framework to try to suggest that complex interactions between the biology and the environment of individuals *qua* organisms are responsible for the 'behavior' of law. In their postpositivistic framework, this would be more defensible. But from the perspective of *social* sciences, this would problematically posit a continuity between the biological operations of organisms, the conscious operations of their minds, and the communicative operations of the organizations and social systems to which they owe their membership and identities as 'criminals', lawyers, prosecutors, judges, correctional officers, private and public police officers, and so on. Such an approach would posit that some bodily economies are responsible for a particular way of interpreting the real, but also that biocriminologists are able to know what an individual *qua* organism thinks and experiences on the basis of the study of its biology.

We can also look at the example of the mass media. Although criminological studies of fictional and non-fictional representations of criminalized situations and individuals are by no means novel, recent contributions have called for the development of a 'visual criminology', and for a greater involvement of criminologists in the study of the iconography of crime and punishment (e.g. Brown, 2014; Carrabine, 2014; Young, 2014; Frauley, 2011). Unless the social system of the mass media is oddly conceived as a biological organism, we see no way in which the supposedly universal biosocial model could be mobilized in its study from a criminological perspective. Biocriminologists might well produce studies in which they monitor the bodily economies of individuals *qua* organisms exposed to products of the culture industry, and speculate about their impact on criminalized behavior. Many orthodox criminological studies attempt to weigh the impact of, for instance, video games, on 'criminal' or 'antisocial' conducts, but typically do so without paying attention to biology. Biocriminologists could perhaps rightly claim that here the 'standard social science model' should be replaced with the biosocial model. But biocriminology shall remain useless if one prefers understanding criminologically relevant cultural productions to speculating about their impact from a behaviorist perspective. Such a perspective is of no use for a sociology of the mass media that thematizes crime and punishment. Contemporary biocriminology seems unable to learn from the social sciences since its evolutionary model makes it unthinkable that society has evolved in a way that makes communication autonomous from biology. Will a defender of biocriminology explain his or her defense by implicating, if not the biology of law or of the mass media, his or her own?

Finally, Heylen *et al.* (2015) end the second section of their response with comments on methodology. They suggest that the social sciences need to use research methods, a claim with which we have no qualm. Their comments illustrate their postpositivist conception of science, in which research methods limit observer bias. The critiques we mounted against this conception of science never involved the idea that social sciences should proceed without methods or methodologies, but rather mobilized a constructivist epistemology troubling its assumptions, such as the *a priori* that an object can give itself as it is to scientific observations without being constructed by them. We proposed that epistemological critiques of biocriminology are transformed into ideological attacks, or "transmuted into technical, *i.e.* methodological, temporary inadequacies" (Carrier and Walby, 2014, p. 21). Heylen *et al.* (2015) prove us right in their response, which proceeds exactly as is typical in contemporary biocriminology, further evidence of a predisposition not to learn from the social sciences.

The Identities of Criminology

In the third section of their response, Heylen *et al.* (2015) condemn our critiques of biosocial criminology on the grounds that if "criminology keeps on resisting biosocial approaches to crime, there is an inherent risk we are really giving away our subject area to our neighboring disciplines, and that we are left behind with only historical accounts of crime, rooted in theories that are in dire need of revision, elaboration, refinement and integration" (p. 17). As 'Ptolemizing Lombroso' already documented, biocriminologists construct the need for the biosocial revolution of criminology by evoking other fields of study, in which probabilistic models of human and non-human animal behavioral causality have long replaced biological determinism and preformationism. In North America, disciplines like psychology and the neurosciences are clearly seduced by the biosocial model. But how does this constitute a threat to criminological practices that are critical of behaviorism, and which take as their objects criminalization and punishment? Heylen *et al.* (2015) do not spell out the roots of their concerns about non-criminological scientific practices related to criminological objects, except to state that somehow crime belongs to criminology ("we risk giving away our subject area"). But what about philosophy? Are philosophical communications about punishment also a threat

to criminology? On what grounds could criminology assert any claim to a monopoly on truth claims about crime and punishment? As 'Ptolemizing Lombroso' demonstrated, contemporary biocriminologists want to limit the topology of scientific criminology to biosocial criminology, and to exclude any other criminological practices from the realm of science.

At stake is thus an attempt to impose a particular conception of the social sciences, which leads to the exclusion "of the social scientific epistemic schemes of analysis that cannot be mobilized within [post]positivism, i.e. that are irreconcilable with the biopathologizing framework and its reduction of meaningful social practices to pure behaviors" (Carrier and Walby, 2014, p. 28). As such, biocriminologists want to exclude criminological identities that are incompatible with the identity of contemporary biocriminology. What we mean by criminological identities is the way criminological communications are interpreted as such within the subsystem of science that criminology is. This could be expressed more abstractly, in the language of Luhmann's social systems theory, by suggesting that identity corresponds to the unity of a difference (such as the unity of the difference criminology/non-criminology within the organized social system of science, itself constituted through operations of communications self-referentially guided by the distinction true/false).⁵

To be seen by criminology as communicating criminologically, one has to exhibit symbols of validity self-referentially established by this social system. The self-referentiality of criminology that Heylen et al. (2015) lament is thus better seen as the condition of existence of criminology. If criminological communications do not refer to themselves recursively - or, to use a biological concept, if they are not autopoietic - then criminology is impossible. Would someone regard as criminological a communication that makes no mention of previous criminological communications?

Contemporary biocriminologists interpret some communications they observe in non-criminological scientific fields, and communicate about them criminologically in the hope of shifting how criminology produces truth claims about the etiology of 'criminal' or 'antisocial' behavior. We observed what they argue and then assert that this is, at best, perhaps interesting for "sociologically ill-informed aetiological criminological practices" (Carrier and Walby, 2014, pp. 29-30). But we also made it clear that criminology is not limited to aetiological concerns (nor, for that matter, to postpositivistic causal speculations). There are plural criminological identities (or, plural forms of criminology), and some are organized in ways that deprive contemporary biocriminology of scientific value. Many criminological practices are self-referentially structured in ways that make biocriminological quests to unravel the 'causes of crime' or 'universal laws of human behavior' appear non-acceptable, because of the problematic epistemological posture that supports these quests. Contemporary biocriminologists interpret this state of affairs as ideological stubbornness.

We, the ... 'Hitlerian' Sociologists

In the last section of their text, Heylen et al. (2015) propose that our critique of contemporary biocriminology is motivated by concerns for freedom and equality, but that we wrongly accuse biocriminology of being racist, sexist and fascist. In doing so, we would not only be defending a conception of criminology indexed to a "degenerative research program" unable to "produce new predictions and results" (p. 22). We would also be propagandists mobilizing Hitlerian strategies to conceal the truth, "to play people's emotions and mobilize them against another group" (p. 22). We, the sinister 'Hitlerian' sociologists according to Heylen et al. (2015, p. 19), would need to understand that a commitment to science (i.e., the mobilization of the biosocial model in criminology) is the best way to provide "factual ground" on which freedom and equality can be defended (p. 17). And we would need to understand that if contemporary biocriminologists' truth claims were taught to future generations, they could learn that equality is a scientific fact. This, we are told, "may counteract the very processes that make racism and genocides possible" (p. 22). For Heylen et al. (2015) our work is merely sociological propaganda, slanderously likened to the propaganda used by members of the Nazi regime (p. 19).

⁵ What is true and what is false from a scientific perspective is an achievement of the social system of science. This does not mean that what is taken as true today will still be tomorrow, nor that positivism has triumphed. But it means that discourses suggesting that establishing the truth is impossible might be self-referentially constructed as scientific propositions (Moeller, 2012, p. 49). Science cannot distinguish the world as it is from the world as it is observed scientifically (see Luhmann, 2002), a key insight from the constructivist epistemology that we used in 'Ptolemizing Lombroso' to critique the naive realism of biosocial criminology.

It is a sad day for science when critical interventions and conceptual and epistemological debates are maligned like this. We did not claim in 'Ptolemying Lombroso' that contemporary biocriminologists are racists, but that they are unable to observe the role of scientific observations in the constitution of race in their aetiological speculations. They treat race as a non-social object, as immaculate data. Demonstrating, as we did, that contemporary biocriminologists interpret the claim that race is a social construction as ideological amounts, in the eyes of Heylen *et al.* (2015), to a "direct accusation of racism" (p. 18) that we purportedly use in our propaganda. We showed that the biosocial model in criminology makes it "impossible to think of racialized categories as instituted realities, to analyze racialized categories in relational terms" (Carrier & Walby, 2014, p. 21), by quoting Wright's (2009) "defense of science", in which he suggests that if "races exist then empirical material will show this" (p. 138). Heylen *et al.* (2015) assert that the portrayal of biocriminology looking for the existence of race in an immaculate, a-social, empirical material "is simply not true" (p. 18) without providing any empirical demonstration.

What is more, Heylen *et al.* (2015) assert that "no sound biosocial research has revealed the existence of fundamental differences between ethnic groups or hierarchies between groups of people, only ideologies have claimed such things" (p. 20). They seem to be quite misinformed about the model they are defending. Others promote it because it would finally enable them to explain the universality of "race-based patterns of behavior (...) such as black over-involvement in crime" (Wright, 2009, p. 151), and lower 'involvement in crime' in Asians because they show more inhibition (than Caucasians), which is thought to be a protective factor against "reactive impulsive aggressive behavior" (Baker *et al.*, 2008, p. 1277). Similarly, Walsh (2004) has proposed that criminogenic subcultures in (American) black communities are to be explained by the bodily economies of black people, *i.e.* by the very "fundamental differences between ethnic groups" that, in the eyes of Heylen *et al.* (2015, p. 20), can only be established ideologically. Moreover, the claim made by Heylen *et al.* (2015) that teaching biocriminology amounts to providing a factual defense of equality is contradicted by the way evolutionary psychology is described by leading biocriminologists: "evolution can produce many forms of adaptation, but it cannot produce equality" (Wright, 2009, p. 151).

Concluding Remarks

What motivated our response to Heylen *et al.* (2015) is our doubt about the capacity of contemporary biocriminologists to understand social scientific communications - not because of individual properties, but because of their adhesion to the biosocial model. Many elements characteristic of contemporary biocriminological discourses seem to suggest that biosocial criminology is a predisposition not to learn from the social sciences, although we invite proselytizers and defenders of biosocial criminology to prove us wrong in ways other than by accusing us of being 'Hitlerian' sociologists, ideologues, and moralists. For instance: what is problematic with asserting that contemporary biocriminology constructs race when it says that its empirical observations 'prove' that race is not a social construction (in this case, one enacted by a specific subsystem of science)? Can biosocial criminology learn from the sociological argument that its speculations about the implication of race in 'crime' depend on a scientific yet socio-historically contingent construction of race? Perhaps such learning is not taking place because it would debase the possibility of biosocial criminology as the pseudo-revolutionaries envision it? And what about the concept of crime? Can biosocial criminology understand that its social existence depends on processes of criminalization? We could, in this vein, rehash all our preceding discussion.

We wrote this response to Heylen *et al.* (2015) entertaining the possibility that contemporary biocriminologists might be able to learn from observations made from a constructivist sociological perspective. In doing so, we have been careful to render biosocial criminology as wholly as possible. We always support our claims with empirical material - biocriminological discourses - allowing any reader to see whether or not our observations are substantiated. When we illustrate, for instance, the biocriminological practice of repressing the dialogical relationship between the observing subject and the observed object with such an empirical material - by quoting biocriminological communications - we obviously indicate our sources. Heylen *et al.* (2015) see in our practice of quoting a form of *ad hominem* attack, and accuse us of being allergic to empirical material. Perhaps they know of a way to observe biosocial criminology empirically without reading contemporary biocriminologists? We make no claims whatsoever about whether or not individual biocriminologists should be disrespected on the grounds of alleged moral wrongs. This is so because we forwarded an epistemological critique of the model, not a moralizing critique of individuals, and because we forwarded a constructivist rather than behaviorist view of social meaning and action.

Finally, Heylen et al. (2015) submit that criminology is unique in its resistance to the biosocial model, asserting that even sociology has integrated it into its “hard core”, as would be testified by the incorporation of courses on biosocial approaches into academic curriculum (p. 22). We are not in a position to judge the situation in the United States or elsewhere. But in Canada, biosocial approaches have made inroads in at least two criminological academic units (Simon Fraser University and Université de Montréal), even if biosocial criminology remains institutionally marginal across the country. It has picked up some unlikely yet equally confounded allies (see Rafter, 2008; c.f. Rafter, 1997). And obviously, many scientists working outside of criminological academic units mobilize the biosocial model in their truth claims about ‘antisocial behavior’ and ‘crime’. Yet this model has, to our knowledge, no significant or legitimate bearing in sociology. This is - and shall perhaps remain - so because sociologists have good reasons to find that human behavior is not the fundamental unit of analysis of the discipline.

One can see sociological theories - such as Freitag’s dialectical sociology and Luhmann’s social systems theory - learning from evolutionary theories, but according to their own identities, in their quest to understand the evolution of society. Mobilizing a constructivist sociological perspective in criminology does not mean employing the ‘standard model of social science’ and trying to explain ‘behavior’ externally. Rather, it means studying the crimes and punishments of society: crimes and punishments as they are dynamically constructed and used in social interactions and by social systems of greater complexity, including the social system of science. Studying crimes and punishments as they exist socially necessitates a reflexive social scientific practice, something we doubt biosocial criminology will ever be able to learn.

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