

PTOLEMIZING LOMBROSO THE PSEUDO-REVOLUTION OF BIOSOCIAL CRIMINOLOGY

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ABSTRACT: Today, criminological concerns about the *bios* are presented as converging in a new 'biosocial criminology', an 'integrated' and 'modern' approach that attempts to synthesize the sciences of life, of the psyche, and of the social. In the eyes of its proponents, this biosocial approach is revolutionizing criminology; a total paradigm shift is assumed to be unavoidable, although the social sciences are blamed for impeding the speed and magnitude of the revolution by discounting the *bios* for ideological reasons. Turning biosocial criminologists' attacks on ideology against themselves, we argue that biosocial criminology represents a 'Ptolemization' of the Lombrosian paradigm rather than a revolutionizing of criminology.

Key words: biosocial criminology; science; epistemology; paradigms; ideology; Lombroso; biology; sociology

When a discipline is in crisis, attempts are made to change or supplement its theses *within* the terms of its basic framework - a procedure one might call 'Ptolemization' (...) the true 'Copernician' revolution takes place when, instead of just adding complications and changing minor premises, the basic framework itself undergoes a transformation.

Slavoj Žižek, *The Sublime Object of Ideology*, 1989

INTRODUCTION

In criminological and related scholarly debates about the aetiology of behaviors framed as harmful or criminal, Eysenck's (1964) *Crime and Personality* is commonly taken as the source of biology's vigorous comeback (see Rafter, 2006). The importance of Eysenck's work is that it signaled a scientific victory over the body as mere surface - what sociologists have long referred to as the "Lombrosian myth" (Lindesmith and Levin, 1937). The old dream of reading criminality off of "phenomenal bodily economies" (Walby and Carrier, 2010) was thus more or less relegated to the dustbin of aetiological criminology. The importance of *Crime and Personality* also concerns the reshaping of aetiological criminology itself (a reconfiguration also announced by the Gluecks' (1968) genetic speculations). Indeed, Eysenck has been described as the "harbinger of modern integrated approaches" in aetiological criminology (Wright and Miller, 1998, p. 3), approaches that now attempt to combine the sciences of life, of the psyche, and of the social (Fabian, 2010; Carbonneau,

2008). Today, such scholarship is often presented as converging in the form of 'biosocial criminology' (e.g. Beaver and Chaviano, 2011; Walsh, 2009a; Walsh and Beaver, 2009; Wright and Boisvert, 2009; Rafter, 2008). In the eyes of its proponents, criminology is not merely facing a new theory of "homo criminalis" (Beirne, 1993). Proponents claim that biosocial criminology is revolutionizing the criminological scientific system, and that a total paradigm shift is unavoidable - although counterrevolutionary forces associated with ideological strongholds impede the speed and magnitude of the biosocial revolution. An "ideological allegiance to sociology" (Beaver, 2008, p. 143) is all that stands between true science and criminology, it is claimed. When closely examined, however, these claims exhibit little more than a 'Ptolemization' of the Lombrosian paradigm.

We assess the claims that biosocial criminologists make about their work and its position within criminology and the sciences. At stake in this debate about the *bios* and the social is the future of criminology. Our contribution is organized as follows: after establishing how biosocial criminology espouses a Lombrosian conception of criminology, we document how its proponents consider it to be a necessary revolutionary project. We then show how biosocial criminology is presented as a post-ideological science of crime, and how, despite its revolutionary ambitions, it maintains Lombroso's "basic framework," only "adding complications and changing minor premises" (Žižek, 1989, p. vii). In our discussion, we offer an epistemologically focused critique of this Ptolemized Lombrosian criminology, turning biosocial criminologists' attacks on ideology against themselves.

CEMENTING THE LOMBROSIAN PROJECT

Biosocial criminology is described as the outcome of a converging movement of several disciplinary tectonic plates towards the full reorganization of criminology's entire inhabitable territory. Given this naked ambition to establish itself as the only possible space for a scientific criminology, one would expect its proponents to have a particularly capacious and hospitable understanding of criminology. Yet, biosocial revolutionary claims are premised on

a narrow conception of criminology, aiming to entrench an iteration of the multidisciplinary but unreflexive Lombrosian project.

The solidification, exportation, and nationally specific adaptations of the criminological project championed by Cesare Lombroso cannot be credited solely to the most exuberant figure of *La Scuola Positiva* (see Rafter, 2011, 2009; Gibson, 2002; Garland, 1988). Still, as Rafter suggests (2008, p. 84), Lombroso's "overwhelming significance" is due partly to the fact that he advanced a project based on the productive "synthesis" of numerous disciplines, and that he pushed "an offshoot of phrenology" towards the establishment of an increasingly autonomous subsystem of science now called criminology. A Lombrosian science of crime is devoted to unravelling bad creatures from the threatened civilized social body, rendering their faulty bodily economies visible, enabling not only strategies of "scientific policing" but also a subordination of the juridical to an "anthropometric guillotine" (see Lombroso in Horton and Rich, 2004). Leaving aside the functions of an emergent science of crime in the context of Italian state formation (see d'Agostino, 2002; Pick, 1986), the ambitions of the Lombrosian project were to distinguish and classify flawed organisms through processes of visualization in order to have them policed and condemned, reformed or exterminated. Its fundamental operation is pathologizing the *bios*, or biopathologization, and important politico-philosophical correlates are embedded within it (Walby and Carrier, 2010; Morrison, 2006).

The history of the revolution-in-the-making written today by biosocial criminologists insists on the adverse scientific effects that an overtly sociological episode has had on criminology. The 1930s are pinpointed as the most destructive moments of a war that led sociologists, by the 1950s, to annihilate the Lombrosian project, or so it is claimed. Edwin Sutherland is singled out as "the leading turf warrior of sociological criminology" in this period (Wright and Miller, 1998, p. 2), and the bellicosity of his work is taken as the major source for the establishment of "sociological criminology" as the "reigning paradigm" in the 20th century (Cullen, 2009, p. xv). Sutherland's differential association theory as well as

early concerns for labelling processes was clearly devised as tools to locate aetiologies of criminal behaviors, but these approaches displaced the focus of the “symptomologizing gaze” from the body onto society, psychosocial processes, symbolic interactions and other sites *irreducible* to bodily economies (Carrier, 2006). The history of criminology written by biosocial criminologists portrays most, if not all, of 20th century criminology as fundamentally sculpted by the total erasure of the *bios* (e.g. Walsh, 2009a; Wright and Miller, 1998).¹

Such a narrative is not only American-centric, but is wildly rhetorical. The consolidation of criminology as an autonomous subsystem of science throughout the 20th century has been marked by its increasing internal differentiation rather than by the hegemony of sociological aetiologies. Although the *bios* was not at the core of mainstream American aetiological criminology, ‘sociological criminology’ *à la* Sutherland did not fully expunge biopathologizing practices. More importantly, not only did psychopathologizing practices multiply (with Freudian and psychiatric versions keeping concerns for the body alive and well), but critical criminological practices *devoid of* aetiological speculations flourished (Carrier, 2008a).

Biosocial criminology is limited to behaviorist preoccupations - it has been called “an inherently interdisciplinary science” concerned with the “causes of criminal behavior” (Walsh, 2009a, p. xix) and also a science of “human misbehavior” (Wright *et al.* 2009, p. 73). But criminology cannot simply be represented as a scientific subsystem that unearths biological, psychological, and social causes of criminal or ‘antisocial’ behavior, as it also includes intellectual projects devoted to understanding social control and processes of criminalization (e.g. Bosworth and Hoyle, 2011; Doyle and Moore, 2011; Downes *et al.* 2007). In fact, many of these critical intellectual projects utilize a more or less radicalized constructivist epistemology problematizing the essence or the existence of the object ‘crime’

¹ Fishbein and Pease (1988, p. 2) have suggested that the neglect of the *bios* might also be attributed, in part, to the fact that its study may violate juridical foundational notions of free will and responsibility.

(Carrier, 2011, 2008b). Given that aetiological speculations do not saturate the field, biosocial criminology must be viewed as an attempt to cement the Lombrosian project: it is an effort to imprison criminology in an aetiological space where the ontological status of crime goes unquestioned, and in which the integration of biopathologizing processes is the *sine qua non* of a scientific predicate.

CONSTRUCTING THE NEED FOR A REVOLUTION

The need to revolutionize criminology by embracing a Ptolemized Lombrosian project to visualize biopathologized bodily economies is established through several legitimating strategies. Most involve painting a dismissive portrayal of criminology as imprisoned in an unscientific or ideological space as the result of its erasure of the *bios*. The typical way to establish the need for a revolution is to posit that the integration of the natural sciences will anchor criminology in a truly scientific realm (see also Trasler, 2009). Criminology is characterized as lacking a set of universally accepted theoretical statements on the causes of crime, such statements being “the hallmark of any discipline claiming to be a science” (Walsh and Beaver, 2009, p. 7). The need for a revolution is further underlined by pointing to the limited instrumental value of forms of criminology that snub the biopathologizing gaze while dissociating contemporary biosocial criminology from previous biocriminological horrors (e.g. Mednick *et al.*, 2009; Rafter, 2008) and suggesting that sociological and theoretical criminology represent a paradigm that is “collapsing” (Cullen, 2011, p. 307). Even criminologists who are not ‘biosocially’ inclined make the call for revolution: “A criminological Louis Pasteur has yet to appear to push our field into a new paradigm of scientific inquiry” (Eskridge, 2005, p. 304; Sampson, 2000).

The need for a criminological revolution is frequently established by contending that an aetiological approach in which the *bios* is erased has provided theories of crime that are “at best marginally supported by empirical evidence” (Wright *et al.*, 2009, p. 73; Wright and Boisvert, 2009; Ratchford and Beaver, 2009). Culture, family, socialization, patriarchy,

racism, poverty and discrimination are among the condemned concepts. If not simply dismissed as "ideological,"² they are said to be lacking strong explanatory power when studied outside a postulated link with the *bios* (see Yun, Cheong, and Walsh, 2011; Walsh, 2006). Biosocial criminologists contend that 'sociological criminologists' *invoke* these factors instead of *proving* and precisely *weighing* their contributing roles, or that they conflate descriptions of phenomenon with their explanations.

Gottfredson and Hirschi's (1990) theory is singled out by biosocial criminologists as illustrative of the inherent incompleteness of a 'sociological criminology' that would need to grow out of its teenage years and embrace biological truth claims. Wright *et al.* (2009, p. 84) aver that Gottfredson and Hirschi are "incorrect about the location of self-control"; science would demonstrate that it is not a result of socialization and parenting since "all scientific data indicate that self-control is housed in the frontal and prefrontal cortex." Moreover, parenting influences would, "outside of the passive transfer of nuclear material, have little do with levels of offspring self-control" (Wright *et al.*, 2009, p. 84; Wright and Beaver, 2005). Indeed, biosocial criminologists estimate that 50 to 90% of self-control is accounted for by genes (e.g. Ferguson and Beaver, 2009; Beaver *et al.*, 2009; Wright *et al.*, 2008). As such, predicting or explaining crime through (the lack of) self-control would be doomed to failure so long as it is not woven into a theoretical framework in which the *bios* and the environment interact.

The relationship between age and crime provides another site that biosocial criminologists use to try to establish that an aetiological criminology blind to physiology is condemned to an unscientific status. That most people arrested, charged and convicted for criminalized activities are young, and that criminology has been able to demonstrate a more or less regular pattern of criminalization in relation to age across time and space, would still seem to be in need of solid theorization. Here, 'sociological criminology' is indicted for being

² Wright *et al.* (2009, p. 73) compare the sociological categories of culture and stratification to god-like actors, and sociologists to "preachers"; "many contemporary sociological perspectives remain just a step or two away from invoking the supernatural."

unable to go beyond the mere description of "regularities of nature" (Walsh, 2009a, p. 150). To establish a truly scientific explanation of the 'age-crime curve', what is deemed necessary is to insert into explanatory devices the boiling physiological alterations of the *bios* during adolescence and young adulthood - particularly, but not only, testosterone surges in bodies still unequipped with 'mature' brains. But ultimately no single element of the body (testosterone, dopamine, serotonin, amygdala, ventral prefrontal cortex. etc.) is causally indicted: "the actual perpetrator is the whole organism making use of its entire toolbox in an effort to achieve the biologically relevant goal of dominance, which itself is the handmaiden of the ultimate goal of all life - reproductive success" (Walsh, 2009a, p. 157).

Biosocial criminologists do not dismiss environmental influences, but they point to the need to revolutionize criminology by studying how these forces interact with biological material. The aim of the revolution is to establish "biologically informed environmental approaches" (e.g. Walsh and Beaver, 2009, p. 9) as the only viable path for scientific criminology. The need for a revolution in criminology is thus constructed through reference to a "revolution in science" currently happening in the sciences of life (e.g. Wright and Boisvert, 2009; Cullen, 2009; Ramírez, 2000), which is moving away from biological determinism in favour of an allegedly holistic and complex probabilistic model of (animal and human) behavioral causality premised on organism-environment interactions (frequently summarized in biosocial criminologists' dictum 'nature via nurture'). As such, given that contemporary sciences of life have moved away from preformationism to embrace epigenesis, and given that they are seen as promising to unveil our nature, criminology ought to embrace anew a biopathologizing gaze - to revisit the Lombrosian project - if it still wants to aspire to science. The required revolutionary task is thus to place the *bios* back at the center of criminological speculations, but in a way that supposedly gives the environment such an important role that biosocial criminology "almost totally reverses the biological determinism of the past" (Rafter, 2008, p. 246).

As the revolution promised by biosocial criminology vows to grant the social a fundamental role in the ways in which nature expresses itself, the need for a revolution is further solidified by two interconnected sets of extra-scientific rationales: the first has to do with the potentially negative consequences of scientific practices, the second with preventative, policing, juridical and correctional strategies. In the first case, the revolutionary rhetoric finds new support in the assertion that integrating biology in the understanding of human behavior (and human nature) is no longer threatening, as it has ostensibly been cleansed not only of biological determinism, but of racist undertones as well (e.g. Mednick, 2009). Proponents of biosocial criminology portray the sociological risks of scientific activities as independent from these activities. For instance, after suggesting that biologically-informed explanations of criminalized activities “carry considerable potential for misuse,” Rafter (2008, pp. 246-247) suggests that such risks (e.g. new versions of forced negative eugenics) can only be imagined because of “manipulative politicians and ignorant citizens.”

In the second case, the argument is inverted, moving from a negation of the risks inherent in biosocial criminology to a celebration of its socio-political potential. From enabling crime prevention strategies through precocious detection of, and intervention on, the dangerous few (e.g. “psychopaths”) to acting as a break from blunt retributivist punishments by challenging the juridically foundational notion of responsibility (e.g. Raine, 2008), biosocial criminology is praised for being pregnant with countless scientifically grounded solutions to crime (e.g. Robinson, 2009). Although some of the remedies already being used directly act on the *bios* to alter individuals (e.g. psychosurgical interventions, pharmacological biotechnologies), the need for revolution is rhetorically reinforced by repetitively highlighting that biosocial criminology will push towards ‘environmental’ interventions. The “biologically informed environmental approaches” are presented as conducive to fighting against crime through reducing environmental factors that trigger biological criminogenic propensities, and through reinforcing social conditions that limit, or

even annihilate, these biological impairments (e.g. DeLisi, 2009; Mednick, 2009; Rafter, 2008; Raine, 2008; Seo *et al.*, 2008).

This seemingly compulsory revolution is associated with an imminent paradigm shift in Kuhn's (1962) sense. His celebrated analysis of scientific revolutions is actually used by biosocial criminologists to explain delays in the revolution by suggesting that too many criminologists are "biophobic" (Ellis, 1996) as a result of the "reigning paradigm" (*i.e.* 'sociological criminology'). Cullen (2011, p. 306) has likewise suggested that "the triumph of sociology" and "the triumph of theory" have seen their day and must be left behind because theoretical and sociological criminology are now "intellectually bankrupt." Walsh (2009a, p. 24) provides readers with a list of some of the expected "paradigm changers," and adds the following comments:

none of the scientists in my list of converts were very young at the time of their conversion, and most were strongly committed to the reigning paradigm. I doubt if any of them had an epiphanal experience (...) all were slowly "dragged by their data" to their conversion experience. This speaks volumes about the honest commitment to science of these scholars rather than to paradigms and ideologies.

By implying that scientific signifying objectivation processes and a priori normative structures (paradigms) can be dissociated from scientific observations, these comments misrepresent Kuhn's sociology of science. The powerful impact of Kuhn's thesis resulted from its focus on the self-referentiality, or socio-historical contingency, of the criteria through which the scientific system distinguishes between true and false observations. Therefore, such a sociology of science *cannot* be mobilized to suggest that scientifically mediated factuality is epistemologically superior - more valid - than factuality mediated through other socio-ideological practices (see Freitag, 2011a; Luhmann, 2002; Laudan, 1996; Feyerabend, 1975). Let us momentarily suspend these epistemological issues to focus on one corollary of constructing the need for a biosocial revolution by appealing to

Kuhn's work. This corollary, within biosocial criminologists' writings at least, is the depiction of criminological practices remaining outside the biosocial framework as being oftentimes *something more* than merely old, unscientific, or quasi-scientific because of "technical limitations and predominating scientific views," or because of a lack of training in the sciences of life, although such an explanation has been suggested (e.g. Cooper *et al.*, 2010; Ferguson and Beaver, 2009, p. 1359). For many biosocial criminologists, this gooey excrescence impeding the revolution is ideology.

POST-IDEOLOGICAL PRETENCES

Biosocial criminological writings mobilize the notion of ideology to excess. However, biosocial criminologists mobilize the concept in an undertheorized fashion, in a commonsensical way that leaves enormous interpretative space while always carrying scandalizing connotations. Biosocial criminologists claim that the failure of criminology to place the *bios* at the center of its preoccupations is symptomatic of ideological influences, which clearly reveals that the revolution biosocial criminologists envision is situated in a post-ideological realm.

When criminology contents itself to search for the causes of crime in the milieu in which an individual evolves - from early parents-siblings interactions to macrosociological forces - biosocial criminologists see the impact of the "ideology of environmentalism," or "environmentalist mantra" (e.g. Ellis, 2009). The absence of the *bios* in aetiological concerns is seen as ideological as it amounts to a negation of scientific understandings of the role that biology plays in criminal or 'antisocial' behavior. 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). Ignoring biology is judged "perverse" (Moir and Jessel, 1995, p. 10): aetiological criminological speculations that neglect the *bios* are deemed ideological, "driven by social scientists who envision racist and fascist hordes

marching in lockstep behind anything remotely connected with the biology of human behavior" (Walsh, 2000, p. 1098).

At the core of this disqualification of "the standard social science model" (Tooby and Cosmides, 1992) as ideological is biosocial criminologists' categorical espousal of a neopositivist Poperian conception of science. For biosocial criminologists, scientific statements ought to be nomothetic, socio-historically non-contingent, and falsifiable. They are also taken as cumulative and commensurable (ideographic endeavours are thus stripped of any scientific value). The union of the sciences of the *bios* with the social sciences that biosocial criminology would achieve implies that various disciplines can be merged, or made to converge, without distortions: the biopathologization of a brain's structure can be added to being exposed to a 'negative home environment' in utterly sophisticated probabilistic computations or dramatically naive *ex post facto* explanations. It is precisely the refusal of social scientists to abolish the nature/culture divide that was crucial for the institutionalization of the social sciences which would testify to the strongest ideological barrier towards the biosocial criminological revolution. Walsh (2009a, p. 3) made this explicit laconically: "there is no defensible *scientific* reason why sociology should not be continuous with biology" (italics in the original).

Besides this core claim about the purported ideological grounds on which social scientists distance their disciplines from the sciences of life, biosocial criminologists also condemn as ideological many observations made by criminological research in which the *bios* is not central. Criminologists and other social scientists unconverted to the biosocial framework are deemed ideological when, to use only seven examples, they suggest that race is a social construct (e.g. Wright, 2009), that economic (rather than moral) poverty explains many criminalized behavior (e.g. Walsh, 2011), that rape is about power (instead of evolutionary demands; see Ward and Siegert, 2002), that women's lower levels of criminalization are a result of socialization (e.g. Campbell *et al.*, 2001), that whatever IQ difference should exist between criminalized individuals and non-criminalized ones, it is a

social product (not a natural difference; e.g. Kanazawa, 2009), that spousal abuse is about control (rather than a symptom of functional brain abnormality; e.g. Lee *et al.*, 2008), and that violent acts have something to do with cultures of masculinity (instead of relative scarcity of men and a low sex ratio; see Barber, 2011). The converging theme of countless condemnations is ideological (*i.e.* non-scientific) *denial of biological inequality*.³

In numerous publications, Walsh (2011, p. 8; 2009a, p. 18; Walsh and Hemmens, 2011, p. 12) relies on Sowell's (1987) categories to assert the ideological sources of refusals to embrace a biopathologizing gaze. These refusals would be grounded in the "unconstrained visions" of social scientists, which Sowell has used as an ideal typical formation of worldviews structured around the foundational belief that human nature is not fixed, or does not impose limits on the actualization of social engineering projects. Such social scientists are judged idealistic, "well-meaning but naive, wrong or unrealistic" (Walsh, 2011, p. 142) by "constrained visionaries," who, in contrast, structure their worldviews through belief in an unalterable, constraining, human nature. The latter are described as pragmatists and consequentialists; they bemoan that the unconstrained visionaries are moralistic, resorting to ad hominem attacks and accusing biosocial criminologists of being racist or sexist when they "are dragged by their data" to find "inconvenient truths."

Walsh thus suggests (2011, p. 8) that constrained visionaries limit themselves to judgments about "how the world is," instead of maintaining normative expectations despite their factual inaccuracy. As such, the belief in a constraining human nature is transformed into fact on the basis of the findings of contemporary sciences of life. In their own eyes, the constrained visionaries are able to do science without being tainted by the distorting field of *beliefs*, which is the fatal flaw of most social scientists, and which explains an irrational negation of the role of biology as well as an unfounded negation of biological inequality in criminology. The ways in which Walsh mobilizes Sowell's categories thus serves a more

³ A more peripheral accusation of the ideological overdetermination of social scientific discourses is the association of the postmodern challenges to Western modernist representational epistemology with an "antiscientific" posture (Wright *et al.*, 2009, p. 73).

nuanced indictment of the “environmentalist ideology” of the “standard social science model”: “when I claim that the biosocial perspective eschews ideology I certainly do not mean that those who work within this approach have escaped the clutch of visions. I mean that the *approach itself*, being interdisciplinary, eschews ideology because it is not committed to a naive either/or zero-sum dichotomy of nature *or* nurture” (Walsh, 2011, p. 9; italics in the original). The presumption of biological equality for which the social sciences are found naively guilty in the eyes of biosocial criminologists is one of the stones on which biosocial criminologists place a mirror to play Narcissus: biosocial criminology is the one and only post-ideological science. They have the courage to discover and to publish “inconvenient truths,” and laugh at those ugly “politically correct” ones pretending to be scientific while practicing “science by fiat” (Wright, 2009, p. 143).

TRACES OF PTOLEMIZATION

We have shown how biosocial criminology adopts a narrow Lombrosian conception of criminology; how it is presented as revolutionary; how it promises to establish the scientificity of criminology *pace* ideology; how biosocial criminological knowledge is seen as presenting an instrumental value devoid of risks; how following the dictum ‘nature via nurture’ amounts to a paradigm shift through the synthesis of the natural and social sciences (the latter espousing the former’s epistemology and allegedly superior methods); and how the paradigm shift is said to be hindered by ideological distortions (and/or political correctness). Though we hinted at some epistemological problems and theoretical misreadings of Kuhn’s sociology of science, the only critique of biosocial criminology proposed above focused on their debatable and American-centric diagnosis of the socio-historical trajectories of criminological practices, and on their blindness to those devoid of aetiological speculations, particularly those anchored in a constructivist epistemology, deontologizing ‘crime’ (Carrier, 2006). Before we offer a critique of biosocial criminology in the

next section, the Ptolemization of the Lombrosian project that it achieves must be more clearly established.

The throng of biosocial publications cannot conceal the remarkable correspondence of the fundamental structures and practices enabling its discourses and findings. Biosocial criminologists celebrate this (relative) structural homogeneity when they emphasize the 'continuity' of scientific observations beyond traditional disciplinary frontiers. As such, this (relative) homogeneity is not geared towards abolishing disciplinary boundaries, but rather operates as a flattening out of the idiosyncrasies that could limit the mobility of scientific observations from one given disciplinary vantage point to another, trying to impose (neo)positivism as the only scientific epistemology *even in the social sciences*.

Although some advocates of biosocial criminology suggest that it amounts to a realization of "Lombroso's vision of a multidisciplinary criminology" (Rafter, 2008, p. 241), the relationship that biosocial criminologists entertain with Lombroso's legacy is typically that of embarrassed and patronizing heirs. Biosocial criminologists distance themselves from the two main sullied notions associated with Lombroso - the born criminal and atavism - which are dismissed as "simplistic," methodologically flawed and unscientific (e.g. Fishbein, 1990, p. 28), and sometimes compassionately explained by the infantile state of scientific knowledge of the *bios* at the time Lombroso was looking at bodily surfaces.⁴ The scission from Lombroso is only partial. Strong biopathological determinism is replaced by the framework epitomized in the 'nature via nurture' dictum: a framework in which criminological biopathologizations *à la* Lombroso remain foundational, though their behavioral manifestations are posited as being activated and mediated by the environment of the organism. As (actual or forecasted) criminalized activities are still transmuted into symptoms of biopathological susceptibilities, biosocial criminology merely Ptolemizes the

⁴ This allows the assertion that biosocial criminology today "share only a faint resemblance" with Lombrosian criminology (Ellis and Walsh, 1997, p. 255). But this assertion is far from self-evident when considering that biosocial researchers still title their papers using Lombrosian lingo, such as 'Natural Born Killers' (Ferguson and Beaver, 2009), 'Crazy by Design' (Walsh, 2009b), and 'The Criminal Brain' (Rafter, 2008).

Lombrosian quest to render variously flawed organisms visible in an epistemological gesture that remains blind to the constitutive role of scientific observation.

Traces of Ptolemization abound. Neurophysiological examinations today perhaps stand as the criminological practices that are, methodologically, the most contiguous with Lombroso's, particularly in research trying to unravel neurophysiological structural pathologies or abnormalities. Either as a result of environmental events (e.g. head injuries) or of the presence of genes 'coding for' structural pathologies, the brains of criminalized individuals are viewed as different (abnormal cingulate, temporal cortex, angular gyrus, amygdala, hippocampus, etc.; DeLisi *et al.*, 2009; Raine, 2008; Raine and Yang, 2006; see also Pustilnik, 2008). The brains of criminalized individuals are also biopathologized at a purely functional level. Multiple forms of 'malfunctions' of the brain are identified to account, at least partly, for criminalized actions.⁵ For instance, "insufficient prefrontal regulatory resources" are considered part of the causes of domestic violence in men (Lee *et al.*, 2008, p. 655). More generally, the pathologized brains of criminals are used to explain their alleged ineptitude in the realm of moral *emotions* (e.g. Kiehl *et al.*, 2004), the "moral feeling" being "the engine that translates the cognitive recognition that an act is immoral into behavioral inhibition" (Raine and Yang, 2006, p. 209). A similar argument is made

⁵ Such abnormalities or dysfunctions would be useful to understand criminal and antisocial behavior in teens, it is claimed, on the ground that adolescence is taken as burdening individuals' information processing devices with a "magnified cognitive load":

The prefrontal cortex bears the burden of this magnified cognitive load that requires multiple executive functions - sustained attention, behavioral flexibility to changing contingencies, working memory, self-regulation and inhibition, abstract decision-making, planning and organization. Yet this processing load occurs at a time when the prefrontal cortex is still maturing, with myelination of the frontal cortex continuing into the 20s and beyond. A minority of individuals with early damage to or dysfunction of the prefrontal cortex would be particularly likely to suffer an information overload during this time period, resulting in further dysfunction of the prefrontal cortex, less regulatory control, and further lifelong antisocial behavior. Others with a late-maturing but intact prefrontal cortex may be antisocial during childhood and adolescence, but with further maturation of the frontal lobes in early adulthood may eventually discontinue their antisocial behavior. Still others may have frontal dysfunction, but may be protected from antisocial behavior by having more social support or fewer social-transitional demands placed on them (...). Yet another group of late-onset offenders (Hamalainen & Pulkkinen, 1996; Ishikawa, Raine, Lencz, Bihrlé, & LaCasse, 2001) may have neither significant executive function deficits nor antisocial behavior until early adulthood when life stressors at this time overload a prefrontal cortex with latent functional impairments (Raine, 2002a, p. 321).

when suggesting that criminal brains have either a “faulty” behavioral activating system (BAS) or a compromised behavioral inhibiting system (BIS), an imbalance in the equilibrium between the two systems possibly resulting in a “craving brain” *commanding* risk-taking activities (Walsh and Beaver, 2009, p. 24).⁶

A considerable amount of work in contemporary biocriminology tries to precisely weigh the amount of inherited biological material responsible for criminalized activities (some of which might be indicted for the structural or functional pathologies discussed above). Following a path first explored in Dugdale’s (1877) *The Jukes* and made infamous by Lange’s (1930) *Crime as Destiny*, researchers today rely on what are taken as increasingly sophisticated methodologies, well aware of the devastating shortcomings that have characterized criminological family studies throughout the 20th century. Mednick’s (1984) and Brunner’s (1993) research are often identified as having shown how such studies could be based on more decent methodologies, but contemporary biocriminology is still struggling with many methodological issues in their precise scaling of heritability (see notably Baker *et al.*, 2008, 2006; Kaplan, 2006; Farahany and Coleman, 2006). Despite these problems, the biosocial *doxa* is that heritability is higher in “good” (or “positive”) environments and lower in “bad” (or “negative”) ones (e.g. Walsh, 2009c; Raine, 2008)⁷, “even though there are doubtless more individuals with a stronger genetic load for antisocial behavior” in “bad” environments (Walsh, 2009a, p. 36). Heritability studies provide at best a *correlation* between behavioral and genetic variety in a given population in a limited time-

⁶ Interestingly, biosocial criminologists evoke and cite writings on edgeworking (e.g. Lyng, 1990) and the “sensual attractions in doing evil” (Katz, 1988) to indicate that sociologists acknowledge the biological underpinnings of irrational, pleasurable, risky, antisocial behaviors, even though this literature - like, more broadly, the sociology of the body and the sociology of emotions - is actually saturated by what biosocial criminologists refer to as “pure environmentalism” (see, among others, O’Malley, 2010; O’Malley and Mugford, 1994). Considering that some of the most vocal advocates of biosocial criminology even cite critiques of their work as testifying to the breadth of the paradigm shift (see Carrier and Walby, 2011), it is not surprising that sociological work clearly hostile to the biosocial framework is co-opted in a way that shall only fool uneducated readers in social theory.

⁷ In line with the organism/environment interactive framework, it has been suggested that “bad” environments might even work to “camouflage” the contribution of the *bios* to criminal or antisocial behavior, for instance when the academic difficulties of aggressive kids is said to result in “artificially low” testosterone levels (Raine, 2008, 2002a, p. 321; Raine and Venables, 1981).

space. They are unable to support claims about the aetiology of criminalized activities. These sophisticated *quantifications of ignorance* nevertheless lead biosocial criminologists to treat the “intergenerational transmission” of antisocial behavior as an indisputable “fact” (e.g. Raine, 2002b, p. 419). They exemplify the Ptolemization of the Lombrosian project by replacing determinism with a weighted contingent biological programming (‘predisposition’, ‘susceptibility’, etc.) to do harm. Moffitt’s (1993) celebrated dichotomy between life-course persistent and adolescence-limited delinquents has often been used in a quasi mirror-image of Lombroso’s dichotomy between born criminals and criminaloids, as the adolescent-limited problematized behaviors have been explained by social factors and the persistent ones largely by a pathologized inherited *bios* (Tremblay, 2005). But since it makes no theoretical sense in biosocial criminology to ‘explain’ behavior only externally (*i.e.* sociologically), there are suggestions that the adolescent-limited group has been “under-pathologized,” and that the myth of pure environmentalism is being debunked (Burt and Mikolajewski, 2008, p. 437).

Studies of quantitative trait loci (QTL) sets also demonstrate a Ptolemized Lombrosian criminology, transmuting the simplistic Lombrosian visualizations of stigmata into virtual renderings of the indirect (*i.e.* environmentally contingent) speculated causes of traits or behaviors (“phenotypes”). Molecular genetics complement heritability studies by trying to localize and visualize genetic architectures responsible for biologically programming organisms for an ever-growing number of problematized phenotypes, from minute contestations of parental authority to disturbingly gruesome violent acts. Biosocial criminologists deny trying to find genes ‘coding for crime’, and laugh at the sociological/journalistic hysteria that suggests the contrary. Today’s biosocial criminology indeed focuses on polygenic and pleiotropic effects⁸, and does not espouse the idea that one gene inescapably leads to crime (e.g. Beaver *et al.*, 2008). For instance, human organisms

⁸ Polygenic effects suggest that multiple genes converge in their actions and partially account for phenotypes, while pleiotropic effects suggest that multiple phenotypes might be partially accounted for by a single genetic source.

equipped with certain dopaminergic polymorphisms (e.g. carrying the 10-repeat allele on DAT1, a dopamine transporter gene), serotonergic polymorphisms (e.g. a short allele on 5-HTTLPR, a serotonin transporter gene), or enzymatic degradation polymorphisms (e.g. the monoamine oxidase A gene (MAOA) with low activity alleles) are organisms which, when evolving *in certain environments*, are programmed to react in ways usually deemed problematic by biosocial criminologists. This includes a higher probability to be violent, to commit criminalized acts, to consume tobacco and alcohol, and to gamble (e.g. Beaver, 2009; Ferguson and Beaver, 2009; DeLisi, 2009; Seo *et al.*, 2008).

Even if it can be pointed out that biosocial criminology grasps gene-environment interactions and correlations in multiple ways (e.g. Walsh, 2009a, pp. 36-39), it is nevertheless about distinguishing, visualizing and categorizing *organisms* (see also Benesayag, 2010). 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*. If today the scientist observing virtualized neurophysiological structures can mock 19th century observations of Vilella's skull, the same unreflexive biopathologizing gaze is embraced - as if the pseudo-revolutionaries have learned nothing from the critiques of biocriminology coming from the *social* sciences.

Instead of calling for criminologists to educate themselves in the sciences of life, contemporary biocriminologists might benefit from educating themselves in the social sciences before pretending to integrate them into rudimentary, reductionist, and mechanistic accounts of social practices (see also Duster, 2006). Discussing some basic lessons from the social sciences is indeed sufficient to show how biosocial criminology is

rudimentary and antisocial. Our discussion below focuses on ideology, epistemology, the (in)commensurability of scientific observations of the social, as well as on the (dis)continuities between nature and society.

POST-IDEOLOGICAL PRETENCES REVISITED: THE IDEOLOGY OF THE IMMACULATE DATA

The notion of ideology as mobilized by biosocial criminologists in their attempt to explain the social forces limiting the appeal of their pseudo-revolutionary science of crime corresponds with the Parsonian conception of ideology as a "deviation" from scientific objectivity (Parsons, 1959). This is illustrated in the association of postmodernist and feminist practices to an "antiscientific" posture, in the suggestion that constrained visionaries are not guilty of ideological obstinacy (on the grounds that biological inequalities have been scientifically demonstrated), as well as in the affirmation that the 'continuity' of sociology with biology cannot be refused on scientific grounds. Thus, ideology is used narrowly, and in contrast to more sophisticated and reflexive conceptualizations that do not *ideologically* exclude scientific observations from the realm of ideology (e.g. Freitag, 2011b; Žižek; 1989; Boudon, 1986; Habermas, 1973; Geertz, 1964). This non-exclusion is based on the recognition that it is impossible to be "a simple observer of ideologies, a strict empiricist, because even such a supposedly non-evaluative viewpoint falls into the ideology of objectivity, which is only one aspect of a determined conception of truth" (Ricoeur, 1997, p. 226, our translation).

The celebration of the positivistic epistemological dualism between science and ideology is made explicit when it is suggested that, in contradistinction to social scientists, biosocial criminologists are "dragged by their data." This is perhaps nowhere more clearly expressed than in Wright's "defense of science," when he suggests that if "races exist then empirical material will show this" (2009, p. 138). This statement is presented as reflecting a true scientific attitude, and is opposed to statements on race by social scientific associations that Wright disparages, such as the following from the American Anthropological Association

(AAA): "physical variations in the human species have no meaning except the social ones that humans put on them." This manifestation of what we refer to as the *ideology of the immaculate data* is a stunning example of the rudimentary epistemology of biosocial criminology: for them, scientific observations are not dependent upon socio-historically contingent specific rapports of mediation. The ideology of the immaculate data negates that scientific and non-scientific observations share "an intrinsic rapport of objectification, a same structure of mediated rapport between subject and object" (Freitag, 2011a, p. 180, our translation). Wright's suggestion that empirical material is available without any signifying mediating processes, that it 'speaks for itself', is only an extreme expression of biosocial criminologists' ideology of the immaculate data.

All the "hard facts" (biological inequalities, criminogenic propensities, etc.) that biosocial criminologists refer to are really the results of a biopathologizing gaze unable to observe its own contribution to the meaning *attributed* to empirical observations. They are also the products of an epistemology inadequate for the study of the social, as it presupposes the possibility of discussing factuality outside language, time and space. Biosocial criminology thus presupposes an accessibility to things *as if one could distinguish the world as it is from the world as it is observed* (see Luhmann, 2002). The ideology of the immaculate data is ideological on the grounds that it negates the constitutive dimension of scientific observations, leading one to conflate the essence of things with the ways in which objects are symbolically appropriated (see also Freitag, 2001). Critiques of the ideology of the immaculate data can be formulated from dialectical, standpoint and constructivist epistemologies, none of which negate factuality. Instead, just like the above AAA's statement on race, they suggest that factuality never deposits itself passively in consciousness or discourses, but that it is always contingent on socio-historically located regimes of observation (see Carrier, 2011; Luhmann, 1999, 1990; Foucault, 1969, 1966; Mills, 1963; Wittgenstein, 1961; Mead, 1925). This contingency is usually expressed by referring to the theory-laden quality of phenomenal and virtual (e.g. fMRIs) realities.

Typically, the epistemological issues raised by it are either transmuted into technical, *i.e.* methodological, temporary inadequacies by neopositivist (see notably Ferrell, Hayward and Young, 2008; DiCristina, 2006; Young, 2004), or negated as ideological in an authoritarian fashion, *i.e.* without any sound argument, by evoking “hard facts” while reasserting an ideology of the immaculate data of which the critique is not understood. Wright and Cullen (2012, p. 248) illustrate the latter strategy, showing themselves to be totally unable to understand any epistemological and theoretical critiques of biosocial criminology other than as an ideological attack formulated in “the subcultural language of the postmodern community.” Wright and Cullen limit their engagements with these critiques to an insipid statement of disagreement (also see DeLisi, 2013).

The repressed dialogical relationship between the observing subject and the observed object, characteristic of the ideology of the immaculate data, allows biosocial criminology to partake, notably, in the “remaking of race” (Wacquant, 2001, p. 84). As we saw, this project naively looks for the existence of race *outside* the realm of meaning, *i.e.* as a non-social object, *but from* the realm of meaning, *i.e.* by unreflexively mobilizing race as a social object. No wonder then that biosocial criminologists are accused of racism: their practices abide by the Eurocentric civilizational premises of the Lombrosian project (see Morrison, 2006), making it impossible to think of racialized categories as instituted realities, to analyze racialized categories in relational terms (see also Cunneen, 2011; Pálsson, 2007; Royal, 2006), or to reflect on how scientific observations participate in the cultural-symbolic and politico-judicial reproduction of racialized categories. This alone shows how biosocial criminology is not merely epistemologically simplistic, but also bluntly antisocial.

Since they confront - rather than repress - the homological structure of meaning production within and outside science, social sciences have developed a strong reflexive tradition, often traced to Durkheim’s (1895) admonition to avoid pre-notional ensnarement. This reflexive tradition is *precisely the opposite side* of the ideology of the immaculate data (e.g. Freitag, 2011a; Wagner, 2008; Lahire, 2005; Martuccelli, 2005; Luhmann, 2004,

1995; Bourdieu and Wacquant, 1992; Giddens, 1984; Bourdieu, Chamboredon and Passeron, 1980; Gadamer, 1960). It is a tradition that led to increasingly sophisticated ways to mobilize Dilthey's classic distinction between explanatory sciences and comprehensive ones. That is, to assert the need to study the social *differently* than nature. Building on some basic elements of this tradition, we now expose two contiguous ideological components that are central in the discourses of the advocates of biosocial criminology. Firstly, that the multiplicity and complexity of scientific modes of observations (which should be distributed along epistemological, theoretical and methodological axes rather than following institutionalized disciplinary boundaries) are *incommensurate*. And, secondly, that there are reasons to maintain that the social is *not* continuous with the *bios* (which does not amount to negating their interaction).

POST-IDEOLOGICAL PRETENCES REVISITED: THE INCOMMENSURABILITY OF SCIENCES

As demonstrated above, biosocial criminology is presented as a synthesis of the natural and social sciences, representing, to borrow Kuhn's (1962) term, the "normal science" to come. This claim is premised on a linear, hierarchical, cumulative representation of nomothetic scientific endeavors, in which it would be possible to perfectly articulate, notably, the laws of physics, chemistry and biology with psychology, anthropology and sociology. This delusion of the pyramidal continuity of scientific observations, which took its definitive form in the 19th century and that is vital to the claims-making activities of biosocial criminologists, is grounded in the ideology of the immaculate data. It tries to render positivism epistemologically hegemonic. Biosocial criminology thus fails to respond to varied critiques of the Enlightenment and of the ideological dimension of science and progress that have been forwarded by the social sciences. To use Weber's categories, such critiques have shown how the fantasized commensurability of sciences rest on subordinating aesthetic-expressive and moral-practical rationalities to a cognitive-instrumental rationality, and how

it requires a problematic empiricist unidimensionality, limited to measurable, operationalizable entities (e.g. Freitag, 2011a; Maffesoli, 2008; Santos, 2004; Habermas, 1968; Marcuse, 1964; Horkheimer and Adorno, 1944).

One way to introduce more frontal refusals of biosocial criminologists' phantasm regarding the commensurability of sciences is to mobilize Kuhn's (1962) sociology of science (against their own misreading of it). As an exemplification of what he meant by paradigm, Kuhn (1962, p. 50) told the story of a chemist and a physicist unable to establish a consensus about whether or not a single atom of helium is a molecule. This story was used to show the plurality of paradigms in sciences, and that even closely related sciences such as physics and chemistry "do not link up with one another smoothly; there is a gap between them, as there is between the Aristotelian paradigm and that of Newton. They are incommensurable" (Mol, 2002, p. 74). This lack of 'smooth linking' does not mean that chemistry and physics cannot cross-fertilize, but that their objects (here the atom of helium) are only nominally shared (also see Knorr-Cetina, 1999). It is the sheer *appearance of the identity* of objects across sciences that mesmerizes biosocial criminologists, allowing them to believe in the commensurability of sciences.

Since Kuhn, the social sciences have more directly condemned the positivistic assumption of the commensurability of sciences. This has been done epistemologically as well as ethnographically. Though our discussion is limited to the former, in both cases the incommensurability of sciences is established by showing how the positivistic dualism between subject and object is indefensible and nurtures a considerable epistemic blindness.⁹

⁹ Following the impetus of Latour and Woolgar's (1979) *Laboratory Life*, the ethnographic critique has been mainly formulated through the mobilization of actor-network theory (ANT) (examples of criminological applications of ANT include Mopas, 2007; Brown, 2006; Latour, 2002). Knorr-Cetina's (1999) ethnographic work has also noted the epistemological differences amongst the natural sciences. Whereas the epistemological critiques we discuss here focus on an optical dimension (how objects are observed), the sociology of science in the ANT tradition focuses on a practical dimension; not on theories of knowledge and schemes of analysis, but on scientific practices through which objects, realities, truths are "enacted" (e.g. Latour, 2005). In other words, sciences are incommensurable because of a technically enacted "multiplication of reality" (Mol, 2002, p. 75; see also Pickering, 1992; Law, 1991) – biosocial criminologists ignore how the natural and social sciences operate from "incommensurable viewpoints" (Kuhn, 1970, p. 200).

The epistemological critique has been variously formulated across intellectual traditions, perhaps most famously through the “crisis of representation” that followed the abandonment of the “visualist ideology of referential discourse” (Tyler, 1986, p. 130) in anthropology (e.g. Clifford and Marcus, 1986) and philosophy (e.g. Rorty, 1980). In sociology, it might be Luhmann who most rigorously theorized the impossible identity of the elements mobilized in the operations of different social systems (e.g. Luhmann, 2000, 1995). From an epistemological perspective, the incommensurability of scientific operations is not solely due to the plurality of institutionalized disciplinary traditions. That is, it cannot be limited to the fact that psychology and sociology, or chemistry and physics, for example, observe radically different worlds, even when they nominally appear to analyze the same object (e.g. crime, an atom of helium). Because foundational epistemic schemes of analysis mobilized in scientific observations are not isomorphic to disciplinary plurality, incommensurability only partially resides in disciplines themselves. The indomitable plurality of epistemic schemes of analysis is particularly visible when sciences investigate social practices. The causal scheme of analysis cohabitates with functional, structural, hermeneutical, actantial and dialectical ones (see Berthelot, 1996), and this is why there will never be an overarching “normal science” in the social sciences (see Passeron, 2006, pp. 539-612). Biosocial criminology can entertain the dream of a synthesis of sciences only on the a priori that (neopositivistic) causality is the one and only scientific scheme of analysis. But there is no possible point of view from which the superior validity of a given scheme could be *logically* established (Berthelot, 1990, p. 219). Thus, the organism/environment co-variations observed by biosocial criminologists and the causal relationships postulated between the *bios* and criminalized activities cannot be synthesized with, for instance, phenomenological interpretations of criminalized activities. The claim that such co-variations and relationships have a superior scientific validity can only be established, to come full circle with Kuhn’s (1962) thesis, through convention, wild rhetoric, and authority.

POST-IDEOLOGICAL PRETENCES REVISITED: ON DISCONTINUITIES BETWEEN THE BIOS AND THE SOCIAL

The current biosocial project to Ptolemize Lombrosian criminology is not only characterized by the phantasm of the commensurability of sciences, but also by the argument that one cannot scientifically negate the continuity of the social with nature. Typically, advocates of so-called "integrated" approaches articulate this argument by bemoaning (or mocking) that the social sciences developed outside of the allegedly linear, cumulative, trajectories of the 'hard' sciences, usually indicting the Durkheimian legacy (e.g. Barber, 2008). Biosocial criminologists discuss the "false" scientific start that characterized a criminology divorcing human behavior from biology (e.g. Wright *et al.*, 2009, p. 74), and celebrate biosocial criminology as a process of scientific "self-correction" (Ferguson and Beaver, 2009, p. 287).

Among the straightforward and swift ways to demonstrate the ideological quality of the postulated continuity between the *bios* and society is the contemporary dialectical sociology of Freitag (2011a), which recognizes the *ontological* differences opposing natural and social realities. Natural objects are constituted through external mediation, while social objects are produced through internal mediations (Freitag, 2001a, p. 326) - this already provides ample evidence of the inadequacy of the unreflexive epistemological model of the sciences of nature in the analysis of society. The objects of the sciences of life that are appropriated by biosocial criminologists (e.g. enzymatic degradation polymorphisms) are not, outside their culturally (*i.e.* scientifically) mediated construction, the sophisticated products of meaningful practices; obviously, nature does not present "in itself a reflexive relationship between cognitive categories and the reality targeted by these categories" (Freitag, 2011a, p. 275, our translation; see also Livet and Nef, 2009). On the other hand, social practices, including criminalized ones, do not come into social existence only through the 'disinterested' mediations of science. Rather, social practices always *already* structure scientific operations. Biosocial criminologists, as neopositivists, repress that with their

dreams of a purely antisocial science. This corresponds to their rudimentary epistemological posture, poignantly illustrated above with Wright's (2009) quest to find the result of social practices in an empirical material that, magically, would not be the product of social practices.

The epistemological challenges resulting from the imperative of reflexivity in the social sciences help to explain their idiosyncratic socio-historical developments (see Mouzelis, 2008; Spurk, 2006; Passeron, 2006; Martucelli, 1999): social scientists are no more feeble-minded, ideological, or scientifically incompetent than contemporary biocriminologists. The social is certainly not independent from nature (as without life on Earth there would be no pseudo-revolutionary discourses), but the complex realm of social practices exhibit qualities *irreducible* to the realm of nature. In contradistinction to biosocial criminologists, social scientists take this as a strong indication that *meaningful social practices*, including criminalized ones, can only be transmuted into *behaviors* that are simplistic, meaningless and predictable *within the self-referential realities of neopositivistic sciences* (realities that are saturated with unobserved commonsensical assumptions because of the epistemic blindness generated by the foundational subject/object dichotomy that they rely on; see Luhmann, 1998). Most of the critical tradition in criminology is based on unmasking these commonsensical assumptions and their countless impacts - sometimes benign, other times lethal - within and outside the social system of science.

Wrong's (1961) classic critique of oversocialization could be applied to many contemporary social scientific accounts of social practices, some might say. Yet, we cannot conclude on this basis, as biosocial criminologists' rhetoric suggests, that the social sciences are united in a celebration of the "ideology of environmentalism." To animate our critique we have summoned some dimensions of Freitag's dialectical sociology, in which the analysis of the symbolic "existential or ontological modality of subjectivity" (2011b, p. 183) is *not* independent of the totality of the psychological and organic regulations characteristic of animal life. We have also evoked Luhmann's sociology, in which the analysis of social

communication, including the realm of social action, is premised on the “structural coupling” between communication and perception, itself dependent upon the continued autopoeisis of life. Constitutive criminology is built on a “modified autopoeitic and structural coupling thesis” (Henry and Milovanovic, 1996, p. 114), and is illustrative of the ability of criminology to provide a comprehensive theoretical framework. In such work, instead of seeing the “ideology of environmentalism” at play, we find a respectful take on the complexity of human beings that eschews biosocial criminologists’ reductionism and behaviorism and their blindness to social structure. Similarly, recent criminological engagements with existentialism, notably through a focus on will, becoming and *événement* (e.g. Spencer, 2011; Crewe and Lippens, 2009), could provide a platform to expand the critique of biosocial criminology’s antisocial preoccupation with “machinic processes” (Lippens, 2009, p. 260) that we have critiqued above.

CONCLUSION

The rudimentary and antisocial qualities of contemporary biocriminology lead their proponents to study a social object - crime - as if it was a thing in nature, independent from spatially and historically contingent symbolic mediations. Mobilizing an epistemological critique targeting the repressed mediation between the observing subject and the observed object in neopositivism, we have suggested that biosocial criminology is not revolutionary but rather a Ptolemization of the Lombrosian project. We do *not* propose that it is a mere replication of *La Scuola Positiva*, but that biopathologization (its foundational explanatory scheme) is left unaltered despite patent modifications such as the celebrated abandonment of blunt determinism. Biosocial criminologists ignore or dodge all the significant critiques that social scientists have formulated against this unreflexive foundational explanatory scheme, as if they were valid only against old biocriminological practices.

Biosocial criminologists would like to persuade social scientists (particularly criminologists) that the only sound scientific approach to crime is to be found in a “biosocial

synthesis" (Walsh, 2009), epitomized in the dictum 'nature via nurture'. But this corresponds to an *exclusion* of social scientific epistemic schemes of analysis that cannot be mobilized within neopositivism, *i.e.* that are irreconcilable with the biopathologizing framework and its reduction of meaningful social practices to pure behaviors. Unlike in the natural sciences, in the social sciences it makes sense to focus our analysis on such muddled domains as desires, the imaginary, meanings, representations and discourses, making it impossible not to implicate the analyst's own subjective and active engagement with phenomenality (which in turn makes it difficult not to confront the epistemological issues arising from it). In Anglophone debates, representatives of 'cultural criminology' are currently the most vocal advocates of an aetiological criminology that aims to be attuned to the situated *lifeworlds* of social actors, and certainly the most aggressive critics of criminological practices studying crime in artificial settings (e.g. Ferrell, Hayward and Young, 2008). Although some proponents of biosocial criminology point to the dangers of excluding meaning and culture from the scientific analysis (e.g. Walsh, 2009a, p. 6; Rafter, 2008, p. 351), the only way they can penetrate neopositivistic explanations is through their distortive operationalizations. The 'synthesis' of biosocial criminology is an exclusionary act, as it rests on the *a priori* of the superiority of explanation over interpretation, of the nomothetic over the idiographic.

That biosocial criminology is far from carrying the potential for a modernist synthesis of criminological knowledges is patent from the very conception of criminology that is espoused. However, such a critique remains too foreign from the axiomatic principle orienting biosocial criminology - biopathologization - to achieve a thorough problematization from the perspective of its proponents. This is attested, particularly from the mid-1960s onwards, by the bi-cephalic structure of criminological practices, that Francophone criminologists (e.g. Robert, 1973) grasped by distinguishing an aetiological set of preoccupations (*criminologie du passage à l'acte*) from another concerned with the institutionalization of penal norms and their enforcement (*criminologie de la réaction*

sociale). The synthesis that biosocial criminologists purport to realize does not and cannot integrate this second set of criminological practices. The closest they come is by way of evolutionary psychology, for example when speculating about the Darwinian foundations of penal norms (e.g. Duntley and Schackelford, 2008). This approach is problematic, although a non-cursory critique of evolutionary psychology is beyond the scope of this article (see Durrant, 2009; Rose, 2005; Rose and Rose, 2000; Haraway, 1989).

If the biopathologizing gaze cannot be reconciled with criminological preoccupations that are irreducible to the neopositivist behavioristic orientation of biosocial criminology, then we have a limited set of avenues. The path chosen by biosocial criminologists is to try to authoritatively limit the criminological space to an iteration of the Lombrosian project by an appeal to contemporary scientificity, and to dismiss all other criminological practices as ideological (without being able to observe their own performative contradiction). Criminologists embracing the social reaction framework sometimes rebrand themselves as 'socio-legal scholars' to avoid the pejorative connotation that criminology now carries in many *social* scientific institutions. They sometimes decide to do a critique or a sociology of aetiological criminological projects and practices. This has been epitomized in the work of Foucault (1975) and Cohen (1985), and described as an enterprise of "destructive knowledge" rather than one geared towards finding "what works" (Cullen and Gendreau, 2001). But in a perfect illustration of the double hermeneutic characteristic of the social sciences (Giddens, 1987), the concepts forged in these critiques have percolated in the social (most famously the 'net widening' thesis) to normatively orient contemporary social practices (including penal policies), thus being productive rather than destructive forms of knowledge. Another decision that social scientists can make is to choose the "agonistic existence" (Felices-Luna, 2010, p. 262) of conflicting criminologies, rather than entertain the naïve dream of establishing a "normal science."

Because it embraces a Lombrosian conception of criminology, biosocial criminology risks only, in the social system of science, *to cannibalize forms of sociologically ill-informed*

aetiological criminological practices. Indeed, one need only look at the criminological academic debates beyond narrow behaviorist preoccupations to ascertain the *total absence* of biosocial criminology - and this, despite the avalanche of biosocial publications in Anglophone criminology. This absence is not an indication of the ideological stubbornness of the social sciences. It is rather the consequence of the poverty and antisociality of contemporary biocriminology.

Our focus on an American literature is partly the reflection of the proselytism that we observed in it. We acknowledge that, in the academic realm, biosocial criminology cannot be limited to an American trend (for instance, the 2012 conference of the *Association internationale des criminologues de langue française* opened with a keynote address on a biosocial approach to bullying). We announced at the outset an analysis of the claims that biosocial criminologists make about their work and the position of biosocial criminology within criminology and the sciences more broadly. Among the blind spots created by this attention paid to the revolutionary claims are their socio-historically contingent environments. An analysis of the sociological weight of criminology's "external clients" (Garland, 2011, p. 304) on academic production would have necessitated a different focus; in this regard, our contribution is a prolegomenon to a more comprehensive interpretation of the revival of the *bios* in criminology and of its socio-political impacts.

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