

# METAPHILOSOPHY IN PRACTICE: THE RESPONSIBILITY OF PSYCHOPATHIC OFFENDERS AS A CASE STUDY

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## Abstract

We argue that philosophy has an important role to play in bridging certain social practices with certain scientific advancements. Specifically, we describe such a role by focusing on the issue of how and whether neuropsychological data concerning psychopathic offenders reflect on their criminal culpability. We offer some methodological requirements for this type of philosophical application. In addition, we show how it might help in addressing the problem of determining the criminal responsibility of psychopathic offenders.

**Keywords:** metaphilosophy, psychopathy, criminal responsibility, mind body problem in practice.

## 1. Introduction

Descriptive and normative metaphilosophical issues about the aim and methods of philosophy can be approached by focussing on the discipline in its generality. In particular, important insights and relevant positions can be formulated and defended by comparing philosophy with science. In this vein, this metaphilosophical approach consists in focussing on the problem whether and how philosophy shares domains or methods with science or certain humanistic disciplines. In the case of an inclusion of the domain and methods of philosophy within those of science or the humanities, the burden on philosophy is that of averting elimination. Conversely, if philosophy does not share the methods or the domains of other disciplines, the burden is that of defending the legitimacy of philosophy as a source of knowledge.<sup>2</sup>

This general approach, however, overlooks certain practical problems where philosophy might maintain some methodological autonomy by addressing issues in the domain of science and relating them to issues in certain practical domains. Considering a relevant instance of this philosophical practice, we focus on the problem of the significance of certain neuropsychological studies for the ascription of the legal responsibility to psychopathic offenders.

In this paper, we argue that philosophy has an important role to play in addressing the problem of the use of neuropsychological evidence in order to establish the legal responsibility of psychopathic offenders. In particular, we think that in investigating this role we can enucleate a substantial metaphilosophical view of the object and method of a certain philosophical practice. We substantiate this claim by advancing a type of philosophical conceptual analysis aimed at relating certain notions in the legal, philosophical, and neuropsychological domains. This methodology involves finding out whether in the neuropsychological domain there are tests that can determine the presence of psychological capacities that are prerequisites of criminal responsibility.

We will proceed as follows. In the next section, we describe the problem of the ascription of legal and moral responsibility to psychopaths. Then, we argue for the specific role that philosophy should have in its solution. In order to do this, we delineate the specific philosophical methodology relevant in advancing such a solution. In the third section, we introduce psychopathy as a case study. In particular, in the fourth and fifth section, we will briefly show how a philosophical elucidation of the notion of legal responsibility *via* some insights on the notion of moral responsibility, offers some methodological constraints on the use of neuropsychological data concerning psychopaths to determine their responsibility. Finally, in the sixth section, we show that certain neuropsychological data concerning psychopaths, leave undecided whether they have or lack such legal responsibility.

## 2. Metaphilosophy, the “philosophy of”, and addressing particular problems

In reflecting philosophically on the aims and methods of philosophy, we might adopt outlooks of a different generality depending on the generality of the philosophical practices we focus on to constrain such a reflection. Thus, besides a metaphilosophy aimed at determining, in its most general form, the nature of philosophy, we might be interested

in determining the nature of specific forms of philosophical practice. One way of focussing the approach would be to consider, for instance, whether there are particular aspects of specific types of philosophies, such as philosophy of science, or mathematics, etc. that might have some peculiar objects and methods that might help to illuminate what philosophical practice is and should be in these cases or even in general.

However, also focussing on specific problems might help us to determine certain methodological aspects of particular philosophical practices. Specifically, we might try to individuate practices of conceptual analysis that, by mean of an illustration in the case at issue (with its own specific demands and practical constraints), might dictate a certain interpretation of general (or generic) methodological guidelines that should characterise philosophical enquiry in these areas. In particular, we would like to consider conceptual analysis and offer an example to illuminate this philosophical method when it is applied to a specific problem. As a case study, we use the problem of the responsibility of the psychopathic offender.

### 3. A case study: psychopathy and responsibility

Psychopathy is a personality disorder characterized by specific emotional, interpersonal, and lifestyle traits. The most widespread used tool for diagnosing psychopathy, especially in the forensic settings, is Robert Hare's psychopathy Checklist-Revised.<sup>3</sup> Most notably, according to the PCL-R psychopaths are those individuals who score high on items such as Glib/superficial charm, Lack of empathy, Grandiose sense of self-worth, Conning/manipulativeness, Lack of remorse or guilt, Parasitic lifestyle, Poor behavioural controls, Early behavioural problems, Lack of realistic long-terms goals, Impulsivity, Irresponsibility, etc.

Psychopaths, as measured by the PCL-R, are much more likely than non-psychopaths to enter in contact with the penal system and more likely than other offenders to violently recidivate. Kiehl and Hoffman (2011, 355) estimate that around 93% of male psychopaths in the USA spend much of their lives entangled with the legal system, which includes spending time in prison and jail or being on parole and probation. The consistent moral, legal, and economic impact of psychopaths' behaviour raises legitimate concerns about the proper social response to their offenses and, in particular, to the status of their responsibility.

Legislations of the Western countries require that a culpable agent is capable of controlling her actions and of knowing her surroundings and the nature of her action. The American Model Penal Code, for instance, states that a person might not be responsible for particular actions if:

at the time of such conduct as a result of mental disease or defect [the person] lacks substantial capacity either to appreciate the wrongfulness of his conduct or to conform his conduct to the requirements of the law. (Cited in Aharoni et al. 2008, 50)

Criminal Laws contemplate the control condition as acting freely (not under coercion) and the knowledge criterion as having sufficiently developed rational capacities (cf. Aharoni et al. 2008, 149-150; Morse 2008, 207).

Psychopaths appear to have a constellation of functional impairments that have been tested in different types of psychological experiments in controlled conditions. Most notably, these impairments were shown on passive avoidance, response-reversal, and gambling tasks.<sup>4</sup> Other often mentioned functional impairments in psychopaths include deficits in automatic or bottom-up attention modulation and recognition of emotions, especially fear and sadness.<sup>5</sup>

In addition, certain neurological structures have been suggested as significant correlates or causes of the functional impairments in psychopaths. For instance, abnormalities in the ventromedial and orbitofrontal prefrontal cortex, and the amygdala of psychopaths have been repeatedly noted.<sup>6</sup> Also abnormalities in the broader area of paralimbic system, especially in the connection between the amygdala and the anterior cingulate cortex that underlie emotion regulation and adaptive learning, have been hypothesized as neural causes of psychopathy.<sup>7</sup> In the legal and the domain of medical ethics, the important question is whether these functional and neural abnormalities warrant judgments of lack or diminished responsibility.<sup>8</sup>

#### 4. The role of philosophy

We claim that philosophy has an important role to play in addressing the problem of relating this neuropsychological evidence about psychopaths and the legal requirements for criminal responsibility. Moreover, we recommend a view of the method that philosophers should use in this context. In particular, we advance a type of philosophical conceptual analysis aimed at relating certain notions in the legal, philosophical and neuroscientific domains.

This methodology aims at establishing whether each of these domains can be related by means of what we call *analogous concepts*. A concept in a certain domain is analogous to one in another, when they have some relevant similarities in their uses in their respective domains. Therefore, a central task of this analysis is that of individuating the uses of the two concepts in their respective domains. The other aspect is that of specifying what are the grounds for the similarity of use that is relevant for deeming two concepts analogous. Our requirement of analogy between concepts in different domains is understood generally so that it might cover cases of analytic equivalence of concepts, if there are such things, or of co-extensionality.<sup>9</sup> However, the relation of analogy between concepts could simply refer to relations such as those between concepts that play significantly similar roles, to be specified in relation to the case at issue, in the relevant domains.<sup>10</sup> Without offering an exhaustive account of when concepts can be regarded analogous, we will offer in the remainder of the paper an example of how this notion could be understood. However, before doing that, we have to focus on another methodological aspect of our proposal.

In many cases, we would have to use what can be called an *interactive conceptual analysis*.<sup>11</sup> When attempting to bridge certain domains, we sometimes have to face the problem of recommending how the relevant analogous concepts should be modified. Such type of analysis is sensitive to explicit and justified assumptions concerning how the analysis of certain concepts within a certain domain should be revisionary or conservative in relation to the analogous concept in the other domain. For instance, some authors have framed correctly the problem of the legal culpability of psychopaths, but have offered an unsatisfactory method for deciding the issue in empirical terms. In particular, it has been persuasively argued that the capacities required for legal responsibility do not find what we call analogous concepts in the neuroscientific research concerning psychopaths (cf. Aharoni et al. 2008). Neuroscientific concepts describe brain functions, while judgments of legal responsibility involve concepts used in a normative context. To bridge these domains of discourse, most authors suggest explicating the folk-psychological notions that allegedly underlie the concepts of legal responsibility.<sup>12</sup> This standard approach, however, is not explicitly sensitive to the domain of philosophical discussion of the notion of moral responsibility.

In the case of criminal culpability of psychopaths, it appears that philosophical accounts of moral responsibility should have an important role in addressing the issue of the legal responsibility of psychopathic offenders. The long lasting and wide philosophical

discussions have offered many detailed analyses of the psychological capacities required for moral responsibility. Now, it must be recognised that it is a very controversial issue whether legal responsibility is identical, requires or implies moral responsibility.<sup>13</sup> However, we do not have to commit on these issues. For us it is enough to individuate a formulation of the notion of moral responsibility that is an analogous concept to that of legal responsibility. We would then investigate whether the notion of legal responsibility can be reasonably revised to include some of the psychological capacities that are prerequisites of moral responsibility. Here the aim is to provide a way of bridging, *via* this notion of moral responsibility, the legal and the neuroscientific domain.

A notion of moral responsibility, to be an analogous to that of legal responsibility, should share with it the following requirements. First, it should be framed in terms of folk-psychological notions of agency. Second, it should not rely on contentious metaphysical assumptions about the underpinnings of free action. Third, an account of moral responsibility should not involve amongst its requirements psychological abilities that outrun the capacities of the majority of the population.

Here we briefly defend these three conditions. Folk-psychological notions underpin legal conceptions of rationality and their overarching entrenchment currently does not leave room for their elimination from the legal discourse.<sup>14</sup> The need for avoiding metaphysical controversies about free will comes from their orthogonal status to the law. Except for the hard deterministic views, law is compatible with the idea that all actions are caused by prior events. Causality is important only if “it severely diminishes the agent’s capacity for rationality.”<sup>15</sup> In that respect, it is preferable to have a minimal account of freedom relevant to moral responsibility that is compatible with different comprehensive views. The importance of the third requirement follows from the practical function of ascribing responsibility. Judgments of responsibility ground ascriptions of blame and praise, which in turn serve as regulative handles that enable successful cooperation.<sup>16</sup> Accounts of responsibility that surpass the psychological capacities of ordinary individuals would not be able to play this important practical role.<sup>17</sup>

We think that the legal and the neuropsychological domains might be bridged by employing a notion of moral responsibility whose general lines have been developed by Fischer and Ravizza in their book *Responsibility and Control: a Theory of Moral Responsibility*.<sup>18</sup> Specifically, we suggest that the notion of reasons-responsiveness, as

elaborated by these authors offers an analogous concept that captures the notions of control and rationality that are required in the legal domain.<sup>19</sup> In what follows we will briefly introduce the main features of this account. The central insight in this approach is that an agent has control of a certain action if a process or a mechanism that actually leads to the action is responsive to appropriate reasons. Specifically, here the control condition refers to a process that involves receptivity and reactivity to reasons. Receptivity to reasons is the ability to recognize certain reasons for action, while reason reactivity is the capacity to decide to act in accordance to recognised reasons and, eventually, to execute that decision. Thus, if someone had control in the action of buying a car, normally, that action was the result of a deliberative process or a mechanism that was responsive to appropriate reasons; in this case for instance, the cost, performance, and appearance of the car.

Fischer and Ravizza maintain that responsibility requires moderate reason-responsiveness that involves “a mechanism that is regularly receptive to reasons and at least weakly reactive to reason.”<sup>20</sup> A person is reasons-receptive if she exhibits an “understandable pattern of (actual or hypothetical) reasons-receptivity.”<sup>21</sup> This involves understandable counterfactual pattern of responses. For example, were Smith to stop smoking if a pack of cigarettes cost 1000, but he were not to stop if it cost 2000 dollars, then Smith would not be understandably or regularly receptive to reasons. In other words, we want to know if (when acting on the actual mechanism) he recognizes how reasons fit together, sees why one reason is stronger than another, and understands how the acceptance of one reason as sufficient implies that a stronger reason must also be sufficient.<sup>22</sup>

However, regular reasons-receptivity, besides mere consistency, involves a wider and more robust understanding of how substantive reasons fit together, how they balance in deliberation, the strength they would have given certain actual or hypothetical beliefs, values, desires, etc. This also means that these reasons must be grounded in reality. In addition, among those reasons, should figure moral reasons whose authority will potentially be recognized.

For a mechanism to be weakly reasons-reactive there must be some possible scenario where that mechanism operates, and when there is a sufficient reason to do otherwise, the agent recognizes the reason and does otherwise. To illustrate, suppose that Smith knows that smoking is bad for his health but nevertheless smokes. Smith might be weak willed, but he is still responsible for his action because were it the case that a pack of cigarettes costs 1000 dollars and Smith recognizes this fact, he would stop smoking. In this sense Smith’s mechanism that issues in

action is weakly reasons-reactive because there is a possible scenario in which Smith recognizes the reason not to smoke and he stops smoking because of that reason.

Now, the account is framed in terms of actual mechanisms or processes that are responsive to reasons. Reason-responsiveness includes having desires, preferences, and beliefs that combine in such a way that can be recognized as regular or understandable from the folk-psychological point of view. For example, the paradigmatic case of an action that stems from a reason-responsive mechanism is that which is produced and controlled by the workings of capacities that underlie deliberation and reasoning about what to do.

Furthermore, the account is elaborated with a method of wide reflective equilibrium, which makes it flexible enough to adjust its contours to the capacities of most of the agents that participate in a moral community. So there is no pending worry that, for example, the capacity for reasons-receptivity of an average agent will be totally misaligned with “the objective (...) grading of the strength of reasons.”<sup>23</sup>

The account also appears to make minimal metaphysical requirements. As elaborated before, our methodological discussion relies on a rather sophisticated account of moral responsibility. Usually such accounts of moral responsibility are derived from a metaphysical stance adopted within the free will debate. However, Fischer and Ravizza’s account enables us to bracket and put aside hard issues regarding free will. In order to be able to talk about moral responsibility of psychopaths all we need is to establish some minimal conditions for ascribing control to the agent. Fischer and Ravizza<sup>24</sup> solve the issue whether an agent has control over her decisions, and consequently her actions, by identifying what they call ‘guidance control’. They contrast the concept of guidance control with a more demanding concept of regulative control. Regulative control requires alternative possibilities; it requires that the agent is able to do otherwise at a certain moment. Guidance control, instead, requires just that our actions reflect our willing. Fischer and Ravizza illustrate the difference between these forms of control with an example. Suppose that a student is driving an “instructor car” with dual pedals. We can say that the student has the guidance control of the car because she intentionally, for example, turns it to the left, by steering the wheel that way. However, the student lacks regulative control to go to the right when the instructor orders her to go left, because were she to turn right the instructor would not permit that.

The issue whether regulative control is possible and whether, besides guidance control, it is relevant to free will and ascriptions of moral

responsibility is highly debated, especially between compatibilists and incompatibilists who discuss the relation of free will and determinism.<sup>25</sup> Fischer and Ravizza aim at showing that regulative control is not necessary for moral responsibility by relying on intuitively compelling Frankfurt-type examples.<sup>26</sup> A typical example has the following form:

Sam plans to kill the mayor and carries out his plan without any interference from ‘outside forces’. Unbeknownst to Sam, Jack, a mad neurologist, wants Sam to kill the mayor and would prefer that Sam did it on his own. But, worried that Sam will change his mind, Jack implants a device in Sam’s brain which allows Jack to monitor Sam’s brain activity from afar. Should Sam give any indication to Jack that he (Sam) will do other than kill the mayor, Jack will activate his otherwise dormant device, bringing it about that Sam kills the mayor. [...] Had Jack and his nifty little device not been present, Sam would have killed the mayor for the very same reasons as he did in the situation under consideration.<sup>27</sup>

We agree with McKenna that “the natural reaction to this case [...] is to acknowledge that Sam is morally responsible for killing the mayor even though he could not do otherwise than kill the mayor.”<sup>28</sup>

Furthermore, robust regulative control is not necessary for ascribing responsibility in the present context. When a judge or an expert has to determine whether an agent was responsible for her action, it is not useful for them to try to determine whether there was a metaphysical possibility for the defendant to act differently. However, it would be certainly useful for the judge to check whether the mechanism that produced the action was responsive to reasons or in other words, to the requirements set by the law. Here the task becomes tractable in the light of the interactive analysis that we propose, because we can search for neuropsychological underpinnings that implement Fischer and Ravizza’s action-producing mechanisms and see how they function under various experimental circumstances.

Thus it seems reason-responsiveness might be an analogous concept to that of control and more generally rationality in the law that does not require drastic revisions concerning fundamental assumptions that regulate the use of that concept in the legal domain. The legal concepts of control and knowledge of the circumstances and the nature of the performed action get interpreted in terms of the two components of reasons-responsiveness; receptivity and reactivity to reasons. Of course, there might be more specific legal requirements that we do not address now. But, we would just like to suggest, at least as a plausible

working hypothesis, that the notion of reason-responsiveness offers an enrichment of the legal notion of control by specifying a class of capacities, falling under the heading of rationality, which might be assumed to be preconditions of that type of control.

## 5. Testing legal and moral responsibility

In accordance to our suggestion, the legal responsibility of an agent for an action is diminished when, in the agent, the mechanism that produces the action is not moderately reasons-responsive. This might happen due to incapacities in receptivity and/or reactivity to reasons. Our problem is to establish whether current neurological and neuropsychological evidence might help to establish whether psychopaths have such incapacities. However, a preliminary clarification is needed.

It cannot be excluded *a priori* that behavioural testing and psychological interpretations might offer sufficient evidence to solve the problem of the responsibility of a criminal psychopath. After all, as a matter of fact, expert testimony to juries and judges is often offered in this form. Moreover, Fischer and Ravizza<sup>29</sup> suggest that testing whether agents are regularly receptive to reasons might be thought of as if a “third party” (the one assessing the moral responsibility of the relevant agent) conducts an “imaginary interview” with the agent. This type of ‘imaginary interview’ was actually implemented by philosopher Jonathan Glover and psychiatrist Gwen Adshead in their research at the Broadmoor Hospital.<sup>30</sup> They devised a set of questions and conducted semi-structured interviews with people classified as having antisocial personality disorder. Questions were meant to probe these subjects’ moral phenomenology and understanding along the dimensions that include moral depth versus shallowness, moral motives and sources or patterns of justification.

However, three reasons justify searching for underlying neurological causes. First, the minimal naturalist commitment that our well-grounded folk-psychological capacities, to a certain extent, track some discernible brain activity seems to be widely endorsed.<sup>31</sup> Second, the practical significance of the issue of legal responsibility demands that we uncover causes that provide basis for inter-subjective validity. Finally, and relatedly, since we have to handle the notion of disability, we must always be sensitive to the difference between performance and competence. Neurological explanation might help to tackle this issue.<sup>32</sup>

In this paper we do not engage in adjudicating, in the light of our account, what current neuropsychological evidence suggests about the

criminal responsibility of psychopaths. However, we would like to consider a problem that might be encountered in such an assessment. A problem that is made explicit by the specific philosophical and detailed analysis that we have conducted so far.

## 6. The individuation of agential mechanisms

A general approach to the use of neuropsychological evidence to establish that psychopaths lack capacity for responsibility to reason is to consider their performances in specific experimental tasks. Therefore, the general idea would be to find evidence that shows that *the actual mechanism* that normally produces the action in psychopaths is not reason responsive because the neural mechanisms that *actually* underpin it are deficient.

In this respect, some authors have argued that psychopaths should not be held fully criminally responsible because they have dysfunctional brain areas that underlie the ability to adaptively control behaviour.<sup>33</sup> Most notably, brain areas that underlie adaptive learning and behavioural control, and which function abnormally in psychopaths, include ventromedial and orbitofrontal prefrontal cortex, and the amygdala.<sup>34</sup>

However, this approach should be avoided since there is no *a priori* requirement that the mechanism described at the folk-psychological level should be uniquely realized at the neural level. In fact, this often does not seem to be the case. For example, what we describe as learning is realized in different ways at the neural level. Normally learning the affective value of new stimuli utilizes central amygdala, while learning the new affective value of the old stimuli utilizes the basolateral amygdala; in psychopaths the latter seems to be underactivated.<sup>35</sup> However, the knowledge of these processes in learning may enable us to compensate for them if we do not like how they function standardly. The idea behind the latter answer is that the performance of folk-psychological mechanisms that issue in action cannot be, in general, reduced to that of neural mechanisms because of the *counterfactual* considerations that might be true of the agent described at the folk-psychological level, but not true of the agent described at the neuropsychological level.

This can be illustrated by an example given by Don Ross.<sup>36</sup> Montague and Berns<sup>37</sup> report that structurally equivalent class of equations (Black & Scholes equation) that describes how the options in a real market should be priced also applies to neuronal activity in the human brain (orbitofrontal and striatal regions) when the expected rewards of stimuli

and cues are being evaluated. Moreover, the authors report that when their predictor-valuation model<sup>38</sup> is applied to subjects that are making certain economic decisions, the subjects fall into two groups: conservative (or risk-averse) choosers and risk-takers. For Ross “the intriguing finding” is that one can predict from fMRI scans of the brains to which group the subject belongs.<sup>39</sup> Based on these considerations Ross speculates that someone could suggest that:

we should reduce explanations of people’s risk-aversion levels to explanations of the risk-attitude dispositions of their brains. Imagine, for example, financial houses thinking that they should screen potential asset brokers under fMRI to make sure that they’re not conservatives.<sup>40</sup>

However, Ross quickly indicates why this suggestion would not be plausible. The reason is that the counterfactuals that will be true of the behaviours analysed at the level of the brain do not have to be true of the behaviours when analysed at the level of folk-psychological mental processes. In any case, the information that is accessible to the brain will be important for explaining behaviour. For example,

A broker who knows she has a conservative brain might have extra reason to rely more heavily on her computer model of asset price estimation than her colleagues whose brains do accurate tracking more directly. But conservative brains need not predict conservative selves.<sup>41</sup>

This example illustrates how the mechanisms at one level of explanation cannot (without an argument) straightforwardly be identified with mechanisms at another level of explanation. Therefore, if the relevant capacities for responsibility are conceptualized at the folk-psychological level as processes that are involved in decision-making, then we cannot identify their workings with those of a mechanism, such as that involving the amygdala, in one limited class of tasks. Let us briefly sketch how similar considerations might be adduced in the case of psychopaths.

There is evidence that psychopath’s abnormalities in cognitive and brain activity relevant for responsibility related capacities might be modulated depending on tasks they are performing. Often this modulation is a function of how their attention is employed.<sup>42</sup> For example, there is evidence that even psychopath’s deficits related to amygdala activation (startle reflex, threat, and fear-recognition) can be modulated by using top-down or intentional focusing of attention. In

particular, Larson and colleagues give evidence for the conclusion “that psychopaths’ amygdala-mediated fear deficit appears and disappears as a function of attention-related priorities.”<sup>43</sup> Furthermore, when psychopaths are trained to intentionally allocate focus of their attention to the cues relevant for solving particular tasks their performance on tasks that measure their ability to adaptively control their behaviour and to recognize emotions improves.<sup>44</sup> In this respect, it might be plausibly argued that psychopaths are similar to Ross’ imaginary risk-averse economist who, after learning about the disposition of her brain, manages to overcome it in order to be a better economist, thereby showing that the mechanism that actually produces action is moderately reason-responsive. Similarly, psychopaths who manage to, for instance, circumvent the abnormal amygdala function, show that the mechanism from which their actions actually flow could be moderately responsive to reasons.

Therefore, given our approach to interfacing the neuropsychological evidence and the concepts of capacities underlying legal responsibility, we may recognize the possibility that the neurological evidence concerning psychopaths does not show that they cannot learn to avoid or to reduce the effects of the mechanisms that are not working properly in everyday life. This option becomes salient when we employ the interactive conceptual apparatus that enables us to ask whether the actual mechanism (e.g. practical deliberation) from which action normally issues is or is not weakly reactive to reason.

## 7. Concluding remarks

By addressing the problem of the legal responsibility of psychopathic offenders, we have offered some methodological considerations concerning a specific application of philosophy. We contend that a proper solution of the problem requires establishing the analogous concepts that can bridge, *via* interactive conceptual analysis, the domains of clinical neuropsychological evidence, of philosophical investigation of moral responsibility, and legal practices and theory of ascription of criminal responsibility.

In particular, we have seen how this methodology can help us appreciate the difficulties involved in the problem. We maintain that a plausible interactive analysis can enrich the notion of criminal responsibility by adding to it, as necessary preconditions, certain rational capacities that are associated, in certain philosophical accounts, to moral responsibility. However, we have argued that there are some difficulties in finding analogue concepts for these capacities in notions

concerning the capacities of neural mechanisms that appear to be impaired in psychopaths. Thus, against the opinion of some authors, these abnormalities are not evidence for the conclusion that psychopaths have diminished legal responsibility.

One metaphilosophical conclusion in our paper is that, a methodological reflection on how philosophy should be employed in addressing specific problems can be conducive of better practice. Another, more general, conclusion is that determining, descriptively and normatively, the nature of specific philosophical practices that address specific problems could be a fruitful and relevant way to carry forward metaphilosophical investigations.

<sup>1</sup> The authors have contributed equally to the article; the order of their names is purely alphabetical.

<sup>2</sup> For a discussion of these options, see Overgaard, Gilbert, and Burwood 2013 ch. 3.

<sup>3</sup> Hare 2003.

<sup>4</sup> See e.g. Brazil et al. 2013, Mitchell et al. 2002, and Newman and Kosson 1986. These experiments fall under the name of “instrumental learning tasks” (Jurjako and Malatesti 2016). In these experiments the task is to learn to associate rewarding cues with appropriate behaviors and to learn to avoid punishing cues.

<sup>5</sup> See e.g. Koenigs and Newman 2013, Moul, Killcross, and Dadds 2012.

<sup>6</sup> Blair 2008, Moul, Killcross, and Dadds 2012.

<sup>7</sup> Cf. Kiehl 2006; see also Hamilton, Hiatt Racer, and Newman 2015.

<sup>8</sup> Glannon 2014.

<sup>9</sup> See Quine 1953.

<sup>10</sup> We use, in an intuitive and loose way, some suggestions concerning the intertheoretical reduction between scientific theories advanced in Hooker 1981 and refined in Bickle 1998.

<sup>11</sup> For a formulation and defence of this methodology in philosophy of psychology, see Bermúdez 2005, 6-13.

<sup>12</sup> See e.g. Aharoni et al. 2008, Hirstein and Sifferd 2010, Morse 2008, Sifferd 2013

<sup>13</sup> For a discussion see Fine and Kennett 2004.

<sup>14</sup> See Morse 2000.

<sup>15</sup> Morse 2000 p. 263.

<sup>16</sup> See Gaus 2011 ch. 4.

<sup>17</sup> See Morse 2000.

<sup>18</sup> Fischer and Ravizza 1998.

<sup>19</sup> See also Glannon 2014.

<sup>20</sup> Fischer and Ravizza 1998 p. 82.

<sup>21</sup> Fischer and Ravizza 1998 p. 70.

<sup>22</sup> Fischer and Ravizza 1998 p. 71.

- <sup>23</sup> Fischer and Ravizza 1998 p. 72, footnote 15.
- <sup>24</sup> Fischer and Ravizza 1998 pp. 32-33.
- <sup>25</sup> See Bonicalzi 2013.
- <sup>26</sup> See Frankfurt 1969.
- <sup>27</sup> McKenna 2000 p. 92.
- <sup>28</sup> McKenna 2000 p. 92.
- <sup>29</sup> Fischer and Ravizza 1998 p. 71.
- <sup>30</sup> See Glover 2014 ch. 1.
- <sup>31</sup> See Aharoni et al. 2008, Hirstein and Sifferd 2010.
- <sup>32</sup> For a more thorough elaboration of the significance of neuroscientific data in the legal context, see Sifferd 2013 p. 187-189.
- <sup>33</sup> See Glenn, Raine, and Laufer 2011, Sifferd and Hirstein 2013.
- <sup>34</sup> Blair 2008.
- <sup>35</sup> Moul, Killcross, and Dadds 2012.
- <sup>36</sup> Don Ross 2007.
- <sup>37</sup> Montague and Berns 2002 pp. 280-281.
- <sup>38</sup> See Montague and Berns 2002 pp. 275-276, 278.
- <sup>39</sup> Ross 2007 p. 206.
- <sup>40</sup> Ross 2007 p. 207.
- <sup>41</sup> Ross 2007 p. 207.
- <sup>42</sup> Koenigs and Newman 2013.
- <sup>43</sup> Larson et al. 2013 p. 767.
- <sup>44</sup> See Baskin-Sommers, Curtin, and Newman 2015, Moul, Killcross, and Dadds 2012.

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