

Chapter

**AN INFORMATION PROCESSING MODEL OF
PSYCHOPATHY AND ANTI-SOCIAL PERSONALITY
DISORDERS INTEGRATING NEURAL AND
PSYCHOLOGICAL ACCOUNTS TOWARDS THE ASSAY
OF SOCIAL IMPLICATIONS OF PSYCHOPATHIC
AGENTS***

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ABSTRACT

Psychopathy is increasingly in the public eye. However, it is yet to be fully and effectively understood. Within the context of the DSM-IV, for example, it is best regarded as a complex family of disorders. The upside is that this family can be tightly related along common dimensions. Characteristic marks of psychopaths include a lack of guilt and remorse for paradigm case immoral actions, leading to the common conception of psychopathy rooted in affective dysfunctions. An adequate portrait of psychopathy is much more complicated, however. Though some neural regions and corresponding functions are commonly indicated, they range across those responsible for action planning and learning, as well as

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emotional processes. Accordingly, a complete fine-grained map of all neural mechanisms responsible for psychopathy has not been realized, and even if it were, such a map would have limited utility outside of the context of surgical or chemical intervention.

The utility of a neural-level understanding of psychopathy is further limited by the fact that it is only applicable in the clinical identification of *individual* subjects, and the neuro-chemical/biological correction of those subjects *after* they are positively identified as psychopaths. On the other hand, an information processing model of moral cognition provides for wider-ranging applications. The theoretical and practical implications for such a feasible working model of psychopathic personalities are assessed. Finally, this chapter raises the possibility of directed modification of social-environmental factors (including at the meta-organizational level) discouraging the development of psychopathic personalities in the first place, modifications which are also open to simulation and testing in terms of the same model of moral cognition.

1. INTRODUCTION

“Psychopathy is a personality disorder manifested in people who use a mixture of charm, manipulation, intimidation, and occasionally violence to control others, in order to satisfy their own selfish needs.”

Jim Kouri[1]

Psychopathy can be understood as a family of disorders, as a disorder special unto itself, or as one of a family of antisocial disorders. Risk indicators for antisocial behavior, of which psychopathy is assumed to be a subgroup, are incredibly diverse and surprisingly effective. For instance, exposure to nicotine during gestation doubles incidence of conduct disorder, the pre-adult clinical precursor to antisocial personality diagnoses.[2]¹ Other factors range from parental child-rearing styles (including abusive parental models) which fail to positively reinforce prosocial attitudes and actions, to family/parental marital conflict, to socio-economic status, to culture/media presenting models of aggressive behaviors which are not followed by negative consequences. This final factor, when considered across generations of psychological development, invites Lobaczewski's forecast that any socio-economic system

sufficiently infiltrated by psychopathic personalities rapidly creates a pathological social environment in the main, a systemic “pathocracy,” wherein psychopathic personalities are rewarded and others punished.[3]²

With the scope of influence on the development of antisocial and the reinforcement of psychopathic psychologies encompassing the whole of social strata, the need for a basic model effective across all such levels in identifying and characterizing both antisocial and prosocial relational modes becomes readily apparent. Moreover, such a model should be popularly accessible, given increasing popular attention to the presence of psychopaths and psychopathic traits in general society, reflecting long-standing traditional moral convictions while serving as a generic model for moral cognition. Though headway is made in identifying some dysfunctions due to neurological defect, this is a cumbersome process and species specific in application, failing to meet other desired criteria, as well. Neuro-physical identification is only feasible after the fact of diagnosis and observation, requiring further apparatus and expertise to generate such, while failing to efficiently capture conventional moral beliefs. As such, there is a need for an approach effective both in identification and in representation of neurological defect, without technically cumbersome imaging, and applicable to other levels of organization outside of the clinical psychological context. A generic information processing model is able to transcend aforesaid obstacles, permitting the ready analysis of any system in question, through direct observation unburdened by technological machinations.

2 Lobaczewski defines “pathocracy” as such: “I shall accept the denomination of **pathocracy** for a system of government thus created, wherein a small pathological minority takes control over a society of normal people. The name thus selected, above all, emphasizes the basic quality of the macrosocial psychopathological phenomenon, and differentiates it from the many possible social systems dominated by normal people’s structure, custom, and law.” (Page 193, Lobaczewski’s emphasis.)

2. WHAT IS PSYCHOPATHY?

Traditionally, a psychopath is a person without “conscience.” Conscience plays a central role in the moral theories of everyone from Kant to Mill, arguably is the 'daemon' motivating Socrates to be the “most just man in Athens,” and lately appears in Robert Hare's book title, *Without Conscience: the disturbing world of the psychopaths amongst us*, among others.[4] Conscience, being a psychological construct recently out of favor in moral and psychological theory, is the complex of feelings that guide a person to right actions at right times, most notably in the form of a warning voice that serves as an alert obstacle to the commission of some immoral act. Thus, fully consistent with this understanding, but in contemporary terms - psychopathy is being without conscience, described without *mentioning* conscience – the characteristic marks of the psychopath:

are linked to a diminished sensitivity of certain emotions that are crucial for inhibiting socially unacceptable conduct. In particular, psychopaths seem insensitive to the suffering their crimes cause. They seem unimpressed by the strong negative feelings normal people generally experience if they commit violent or damaging acts. Psychopaths lack the deep social instincts inhibiting human aggression in normal circumstances. If ordinary men notice people in trouble or perceive signs of submission during a violent encounter, their aggression ceases at once. One does not continue to kick a person who begs for mercy. In normal people, cues of fear and sadness block aggression and violence. It has been hypothesized that psychopaths detect these emotional cues less accurately and, consequently, experience less distress.[5]³

Should the authors of the above quoted passage have written with conscience in mind, it would have stood in for “deep social instincts,” traditionally serving as the vehicle for empathy, “cues of fear and sadness,” and the famous “voice of conscience” would have stood in for “sensitivity of certain emotions ... crucial for inhibiting socially unacceptable conduct.”⁴

3 Page 18.

4 This only goes to show, recalling Husserl, that though bound up in the terminology of the era, we must not lose sight of the thing itself. Though we call it by another name,

In fact, not only have the modes of its description changed within a brief window of a few decades in this, the English speaking West, the very names for the psychopath have changed over time.⁵ “Psychopathy,” the term we use today, replaced the older term, “moral insanity” not so long ago, in the late 19th century. During the early part of the 20th century, Freud delivered the basic two-dimensional model of psychopathy still in play, today, consisting of “pathological narcissism” and “cruel aggression.”[7] And, long prior to the use of either denominations, and to the modern model itself, the first Western description of the character that we now recognize as the psychopath has been attributed to Theophrastus’ description of what he called the “Unscrupulous Man”:

The Unscrupulous Man will go and borrow more money from a creditor he has never paid ... When marketing he reminds the butcher of some service he has rendered him and, standing near the scales, throws in some meat, if he can, and a soup-bone. If he succeeds, so much the better; if not, he will snatch a piece of tripe and go off laughing.[8]⁶

Theophrastus did not call this man a psychopath, but his description clearly qualifies. Here is a picture of a man who is apparently remorseless, opportunistic, deceitful and manipulative of other people’s good-will, a model from which the current profile of the psychopath has hardly deviated. For example, compare this ancient description with that of psychological scientists Kiehl and Buckholtz:

psychopathy is not a new concept, and we must, recalling Quine, be flexible in our linguistic associations should we wish to make any headway in accurately determining the construct of psychopathy at all.

5 Different cultures have different terms for the same deviations, as well.[6]

6 Page 3. It should be noted that Theophrastus' characterization is consistent with Aristotle's own schema of virtue and vice, with the psychopath deviating from a mean through his exclusive focus on self satisfaction at the inevitable expense others – although clever, not wise, although practically intelligent, unable to fuse the horizons of self and other in the essential human project, according to Aristotle being politics. Indeed, as this chapter proceeds, we will confront examples of psychopathic social construction, and realize in a more fine-grained way that Aristotle's schema remains effective in underscoring the viciousness of the psychopathic political vision, and thus the deficiency of the psychopath in realizing humanity's highest potentials according to the Western philosophical tradition descended from the Greeks, including Aristotle.

One of the most striking peculiarities of psychopaths is that they lack empathy; they are able to shake off as mere tinsel the most universal social obligations. They lie and manipulate yet feel no compunction or regrets - in fact, they don't feel particularly deeply about anything at all.[9]⁷

Regardless of the words we use to describe the phenomena, linguistic conventions, the differences in cultures, and the span of two and a half millennia, these two descriptions point to the same thing. Both of the above focus on the lack of remorse, lack of empathy, willingness to prey on others, shirk obligations and to put others into bad situations without reservations typically restraining “moral” agents. These are issues of much importance, to be returned to later on in this chapter. In the words of Robert Hare, what we are dealing with in psychopaths is:

a class of individuals who have been around forever and who are found in every race, culture, society and walk of life. Everybody has met these people, been deceived and manipulated by them, and forced to live with or repair the damage they have wrought. These often charming—but always deadly—individuals have a clinical name: psychopaths. Their hallmark is a stunning lack of conscience; their game is self-gratification at the other person's expense. Many spend time in prison, but many do not. All take far more than they give.[10]

3. MODELS OF PSYCHOPATHY

The DSM-IV categorizes psychopathy under antisocial personality disorder (ASPD), with ASPD serving as a fundamental dysfunction, and others including psychopathy simply falling under its heading, as one of its many variants. According to the DSM-IV, ASPD is often referred to as “psychopathy,” “sociopathy,” and “dyssocial personality disorder,” though properly these are all sub-variants of ASPD.[11] According to Robert Hare, this is the wrong approach. Though certainly “antisocial tendencies represent an empirically demonstrable feature of the psychopathy construct, in

conjunction with features reflecting disturbances in interpersonal, affective, and impulsive behavioral functioning,” according to Hare the psychopathic construct belongs in a different class altogether. [28]⁸ Speaking of the classification system in the DSM-IV:

Most psychopaths (with the exception of those who somehow manage to plow their way through life without coming into formal or prolonged contact with the criminal justice system) meet the criteria for ASPD, but most individuals with ASPD are not psychopaths.[12]

Proving that the verdict of science is often the whim of convention, the (upcoming) DSM-V will see substantial revisions to IV's categorization which may go a long way to answering Hare's criticisms. In the DSM-V, “antisocial psychopathic disorder” consists in fifteen traits, de-emphasizing IV's (excessive) weight on rule-breaking behavior, including the insistence on a diagnosis of conduct disorder in youth. The nominal traits are:

Narcissism, Exploitativeness, Sadism, Conduct problems, Hostile dominance, Sensation seeking, Impulsivity, Suspiciousness, Egocentrism, Act aggressively, Amoral, Little insight, Engage in unlawful behaviour, Unreliable and irresponsible, Anti-authoritarian.[6]⁹

Compare this list of traits with those iterated by Cleckley and by Hare, themselves. Perhaps the most thorough account of psychopathy is found in Hervey Cleckley's *The Mask of Sanity*. Therein, Cleckley portrays an array of psychopathic individuals, and from these accounts, along with a lifetime of amassed experience, distills what has since become a very influential set of characteristics. These broad traits of psychopathy have set the standard from which the current clinical profile has emerged, and are given in Table 1. (Table 1: Cleckley's 16 Traits)[13]

8 Page 234. In other contexts, comparing the relationship to that of a common cold, and pneumonia. One is pesky, the other might kill you. In any event, deserving its own study, treatment, and prophylaxis.

9 Taken from Table 1, page 126.

Table 1. Cleckley's 16 Traits

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Superficial charm and good "intelligence"
Absence of delusions and other signs of irrational thinking
Absence of "nervousness" or psychoneurotic manifestations
Unreliability
Untruthfulness and insincerity
Lack of remorse or shame
Inadequately motivated antisocial behavior
Poor judgment and failure to learn by experience
Pathologic egocentricity and incapacity for love
General poverty in major affective reactions
Specific loss of insight
Unresponsiveness in general interpersonal relations
Fantastic and uninviting behavior with drink and sometimes without
Suicide rarely carried out
Sex life impersonal, trivial, and poorly integrate
Failure to follow any life plan.

Here the fully fledged psychopath is described (more) in terms of their inner processes rather than solely on their outward behavior (suicide rarely carried out an exception, as well as often a point of criticism). However, from this emphasis on personality traits, it is easily apparent how such a profile might behave in a given situation. This profile is motivated by emotional deficits, not by conceptual or rational ones.

Cleckley's portrait is of a personality unable to place adequate significance on certain dimensions of results of actions, due a paucity of morally significant emotions. Lacking certain affective processes, the psychopath exhibits apathy towards moral mistakes, characterized in its most mundane form as "unresponsiveness" in relationships with others.¹⁰

Cleckley's description of the psychopath survives in use, today, serving as it does as the basis for the Robert Hare's Psychopathy Checklist - Revised (PCL-R). The PCL-R has undergone some revisions since its birth, yet retains much of Cleckley's original

¹⁰ And, generally, antisocial tendencies, as Cleckley held that antisocial personality formed a core of psychopathy.

conception, and many of the original conception's shortcomings.¹¹ However, there are important differences. Most importantly, Hare and Neumann point to one critical difference between their model and that of Cleckley. In Cleckley's work, psychopathy is not strongly related with aggression:

First, Cleckley's description of the psychopath as not particularly hostile or aggressive is at odds with empirical data that the PCL-R is strongly related to "the personality traits of aggression and antagonism" and is "reliably predictive of aggressive behavior and violent recidivism in criminal offenders"[14]¹²

This emphasis on aggression will be important later in this chapter.

Another important difference between the PCL-R and Cleckley's work is that Cleckley's account is unwieldy, unquantified, whereas the PCL-R is widely employed, especially in criminal settings where claims of psychopathy must be evaluated to determine punishments and definite results are required.¹³ As it stands, if rehabilitation is to be precluded because of psychopathy, imprisonment intent on rehabilitation might be similarly precluded, and Hare's checklist is most often employed in such determinations. In fact, from its ubiquity, coupled with the weight given its results in situations in which persons are permanently labeled, and perhaps even permanently imprisoned, a recent criticism has emerged. There is some question over whether or not the "construct," the very concept, of psychopathy has been overwritten by a single diagnostic test. [14]¹⁴

11 Easy criticisms of either include over-generality, openness to interpretation, and that they serve merely as vehicles for disguised moral judgment. However, the same can be said for any such psychological device.

12 Page 222.

13 It is perhaps due to this fact that there is an emphasis on malice towards others, as we shall see illustrated in the next section.

14 Hare and Neumann take pains to assure us that this is not the case. However, in practice, amongst non-professional psychologists, and indeed in the popular mind, psychopathy may indeed be perceived as equivalent to a certain score on the PCL-R. We shall see this naive attitude reflected in the *This American Life* illustration later on in this chapter.

On the face of it, this is only a problem if the model, the construct of psychopathy represented in the test, cannot adequately account for any given instance thereof. We will have more to say on this count later on. More importantly, in the context of the PCL-R specifically, this is a disconcerting criticism because the results of the test depend on who administers the test, to whom, and in what context. What the “test” identifies as psychopathy shifts depending on who, what, when and why it is put to use. For example, in court contexts, psychologists for the defense consistently score the same subjects lower on the scale than do psychologists for the prosecution. But, at least in this context there is record, and oversight. Perhaps more worrisome is the potential for (life altering) error introduced when the test is administered by people who are inadequately trained, in environments in which the correction of dubious applications are even more difficult to effect.

As for the model itself, there are (at least) two ways of visualizing, and quantifying, the relationships between the 20 total traits – eighteen main and two supplementary – that make up the PCL-R.[14][15]¹⁵ In either case, there are four subgroups, “factors,” and each of the eighteen main traits belong to one of these. The twenty total traits arranged according to the four-factor model are given in Table 2. (Table 2: Hare's 20 Traits)[14]¹⁶

15 A somewhat different set of traits, showing the evolution of the PCL, is described by Hare in [10].

16 By way of Hare's PCL-R, in terms of the DSM-IV, psychopathy is best considered a construct of three DSM specific disorders: narcissistic personality disorder, histrionic personality disorder, and antisocial personality disorder. Though the PCL-R is often referred to in this chapter, it plays no direct role in the model developed herein. The fact is that the PCL-R appears in a great deal of literature, either employed in psychological research as a tool and method, or itself the subject of discourse. Indeed, an interesting and important distinction along the lines of the two main factors originally specified in the PCL-R has been made between a purely biologically predisposed and a biological potential coupled with social factors eventuating in psychopathy. This separation, of innate and learned components, is a promising approach. However, just as the PCL-R bears no direct influence on model developed in the chapter, this distinction shall not be further pursued in this chapter, as our interest is in modes of information processing, and whether these are genetically determined or acquired modes is a matter of no direct importance to the discussion at hand. For more information on the distinction, however, see [16].

Table 2. Hare's 20 Traits

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"Interpersonal"	"Lifestyle"
Glib/superficial charm	Stimulation seeking/proneness to boredom
Grandiose self-worth	Impulsivity
Pathological lying	Irresponsibility
Cunning/manipulative	Parasitic orientation
"Affective"	Lack of realistic goals
Lack of remorse or guilt	"Antisocial"
Shallow affect	Poor behavior controls
Callous/lack of empathy	Early behavior problems
Failure to accept responsibility	Juvenile delinquency
Traits not correlated with either factor	Revocation of conditional release
Promiscuous sexual behavior	Criminal versatility
Many short-term relationships	

When we compare the three preceding lists, some factors appear throughout. One, a specific lack of insight into the morally significant emotional realm of non-psychopaths, evidenced by "shallow affect," "lack of remorse," and "specific lack of insight." This describes a "callous lack of empathy." Couple this lack of empathy with aggression, "hostile dominance," "lack of guilt" and selfishness (egoism and narcissism), and we describe an agent uninhibited by morality, and without capacity to adequately weight directly felt cues regarding the emotional well-being of others. Finally, "superficial charm," "parasitic orientation" (taking for one's self at another's expense), "fantastic" behavior, "exploitativeness," "pathological lying," all of these add up to an agent prone to purely self interested schemes undertaken at the expense of others, without the capacity to understand just how *wrong* such actions truly are.¹⁷ We may summarize these findings thusly. The psychopath does not feel as if others in morally relevant ways. Emotionally deficient,¹⁸ being incapable of empathy, "narcissistic" and self-important, the psychopath treats his/her own situation as the only situation of significance. From this lack of empathy, the psychopath puts others into bad situations without reservation, manipulating, deceiving and

¹⁷ These three groups roughly match those identified by Patrick and reported by Duggan: Mean, Bold, and Disinhibited.[6] (Page 128).

¹⁸ The "affective factor" per Hare [4].

bending others to serve his/her own ends. Finally, the psychopath seeks selfish ends at others' expense, and feels fully entitled to do so, treating others callously, coldly and as if 'less than human.' These may be further summarized as selfish or egotistical, opportunistic or even parasitic, and predatory. Together, they constitute the portrait of a “social predator.”¹⁹ And, as this chapter continues, we shall apply these three criteria in the evaluation of both individual and institutional examples.

4. GETTING OUR HEADS AROUND THE SCOPE OF PSYCHOPATHY

A very old Aristotelian idea is that “form follows function” (e.g., knives were designed to cut, eyes designed to see). If something is known about a phenomenon’s structural form, then it is possible to glean an understanding of how it functions.

Robert Hare and Craig Neumann[14]²⁰

With this portrait in mind, there are four easy reasons to focus on psychopathy aside from other types of ASPDs, and indeed to focus on psychopathy as a special case. For one thing, the causes of psychopathy differ from other dysfunctions, as do the likely mechanisms. In a phrase, it is all about the emotions – or rather, the lack thereof – having been grouped with select other dysfunctions as exhibiting “zero-negative empathy.”^[17] Current thinking, and the view taken in this chapter, is that its development is due to specific deficiencies in emotional learning, a dysfunction which “increases the probability that the individual will learn antisocial motor programs for the achievement of goals,” especially the use of instrumental rather than reactive aggression.^{[18]²¹}

Neurologically, psychopathy is marked by an hemispheric specific impaired ability to feel, recognize, identify, and verbally

19 I hesitate to use the term “intraspecies predator” due to nonhuman applications forthcoming.

20 Page 231.

21 Pages 110-111.

process emotional expressions of negative emotions including disgust, sadness, and fear.[19][20][21][22] Psychopaths appear to offset this deficiency through increased reliance on left-hemisphere resources [23], resulting in impaired verbal response performance when presented emotionally loaded content due to not having learned to associate emotional content with verbal representations directly, but rather after the fact.[18] Through a related deficient integration of the amygdala with the medial prefrontal cortex, also involving the orbitofrontal cortex [24]²², psychopaths show an impaired capacity in coding for stimulus-response pairings around personal action-others' distress cues [25][26][27], removing barriers to marked aggression [18][27][28], an especially worrisome combination of traits given that the only apparent remedy is the removal of the amygdala and anterior frontal lobe.[29]

Neurochemically, psychopathic traits have been found to be motivated by excessive neuro-chemical rewards upon goal achievement.[30] Such neuro-chemical modulation affects socialization, and motivates towards the exhibition of aggression for selfish ends, consistent with the view taken in this chapter, that psychopaths exhibit instrumental aggression due to an incapacity to empathize with expressions of distress (fear, disgust, for example), thereby short-circuiting a normal mechanism for the inhibition of the use of violence in goal-seeking,[18][27] with the satisfaction of said goals rendered more urgent through neuro-chemical modulation. This not a revolutionary position, being a continuation of a long history of theoretical development on psychopathy, wherein an emotional learning dysfunction leads to direct, personal impairment in socialization, as well as impairs the ability to learn socially acceptable boundaries through the fearful, pained, or disgusted expressions of others.²³

22 The orbitofrontal region is also implicated in psychopathy due impairment in some planning tasks. See [18], pages 84-87 and 134-136 for review.

23 The earliest such accounts were fear-based accounts. "What happens is that you are born without fear, so when your parents try to socialize you, you don't really respond appropriately because you're not scared." [31] quoting Patrick Sylvers. Although, any strictly fear-based account faces serious difficulties. See [18], pages 73-76 for discussion. Especially given the emphasis in this chapter is the following: "... the developmental literature indicates that moral socialization is not achieved through the formation of conditioned fear responses but rather

In terms of developmental precursors to psychopathy, there is good indication that it is the emotional constitution that is most predictive of psychopathy in adulthood. Youth evidencing psychopathic traits, as well as adult psychopaths, show an impaired ability to distinguish between merely conventional and moral situations.[18] In addition to impaired fear processing (both one's own and others'), adolescents with conduct disorder evidencing marked aggression are understood to experience good feelings (reward) upon causing others pain.[32]²⁴²⁵ Taken together, we see both a felt condition as well as a neuro-chemical motivation for the instrumentally aggressive expression of callous, unemotional traits. Psychopaths develop, grow, and learn to get what they want according to abnormal neural processes.

Furthermore, callous unemotional traits, central to the construct of adult psychopathy - lack of guilt, lack empathy, callous use of others for one's own gain – are an especially stable group of traits that identify an especially dangerous subgroup of youth, providing a subject-centered (rather than third person, having been caught breaking a law, for instance) characteristic mark for early identification of and possible intervention in the lives of budding psychopaths.[33] Providing for this unique dimension will be a central concern as we turn to the information processing model in the 6th section of this chapter.

Perhaps most interesting amongst the characteristic marks of psychopaths is that psychopathy is marked by an insatiable pursuit of dopaminergic rewards. This fact alone explains the “get it at all costs” mentality evinced by observed psychopaths, a trait with which

through the induction and fostering of empathy.” (page 75) More accurately, it may pay to extend Sylvers' assertion to other relevant emotions, and couple this with an addictive attachment to the achievement of selfish ends, and from this recipe a broad view of the dysfunction emerges.

24 Interestingly, demonstrated aggression (indirect and direct forms) and antisocial behavior follow gender trends indicated in adult psychopathy, with male aggression (direct, the form of violent, dominant, instrumental rather than reactive) greatly outweighing female, and female:male indirect aggression almost equivalent.[34]

25 Corresponding with “sadism” as incorporated in the upcoming DSM-V, and in contrast to normally functioning children, and adults.[35] These mechanisms do not change, but are established in youth and maintained through adulthood.

we shall deal a bit more in later sections. For all of these 'faults,' however, it would be wrong to think that psychopathy is insanity. Psychopathy is not “irrationality” in the contemporary sense. Psychopaths are not “out of their minds.” More accurately, given the current neurological understanding, they are merely expressions thereof. Indeed, it has been said that the simplest definition of psychopathy is “sane but amoral.” That is, “amoral,” not “immoral,” as there is not an inversion of morality, but rather an absence of it, and not “insane,” as in out of control, but rather without impaired executive function and simply in control toward different ends on different neurological bases.

On another count, due to the preceding, psychopaths are prone to exhibit more often a radically different form of aggression than do other ASPDs, making them much more dangerous. They are instrumentally aggressive, using aggression, violence and threats of violence, to further their own selfish ends at the expense of others. [9][18][36] This is immoral by definition – though, once again, given the focus on selfish ends, hardly “insane” - and key to the understanding of psychopathy developed in this chapter. Meanwhile, the broad category of ASPD includes dysfunctions rooted in executive deficiencies, thereby better matching typical definitions of “insanity.” These are dysfunctions characterized by irrational and reckless behavior, “reactive” rather than “instrumental” aggression, and a diminished (rather than, as we shall see in the case of some high-functioning psychopaths, an enhanced) capacity to live well in the modern world. These sorts of dysfunction disqualify agents from grand, political scale influence, while the most dangerous types of psychopaths, for all their faults, are not so encumbered. It is this recognition, itself, that marks a sort of sea-change in the way that psychopathy must be conceived:

Most mental health experts, for a very long time, have operated on the premise that psychopaths come from impoverished backgrounds and have experienced abuse of one sort or another in childhood, so it is easy to spot them, or at least, they certainly don't move in society except as interlopers. This idea seems to be coming under some serious revision lately. ... In other words, they can be doctors, lawyers, judges, policemen, congressmen,

presidents of corporations that rob from the poor to give to the rich, and even presidents.[3]²⁶

The potential for large-scale destruction from positions of power and responsibility is a third important reason to give psychopathy attention over and above other ASPDs. Given current events, recent revelations of corruption, vote-rigging, abuses and excesses amongst high-level leadership, ongoing wars of aggression for plunder based on lies and media manipulation and outright misrepresentation of facts, increasing disparities in wealth, police brutality, state-sponsored terrorism leveraging corporate interested “regime change,” and on and on – in other words, evidence of psychopathy in the actions of the most powerful persons in global society - there can remain no doubt that psychopathy must be afforded special attention, and special tools for remediation, should we wish for such crimes to cease. Consider Robert Hare's observations on this point, conveying a special warning about the threat that is the high-functioning psychopath in today's social climate:

psychopaths have little difficulty infiltrating the domains of business, politics, law enforcement, government, academia and other social structures. It is the egocentric, cold-blooded and remorseless psychopaths who blend into all aspects of society and have such devastating impacts on people around them who send chills down the spines of law enforcement officers.
[12]

Finally, the fourth reason to attend to psychopathy outside of the context of apparently related disorders is that, due to the influence of psychopathic actors on the shape of the world, today, psychopathy has garnered and is gaining increased popular attention. In some contexts, psychopathic traits are actually desirable! In fact, due to their success in such environments, psychopaths, and persons with psychopathic tendencies, are sometimes taken up as personal heroes, even revered for having somehow tapped into forbidden modes of life leading to untold freedom and personal success.[38] Similar observations cannot be so easily made of other ASPDs. About this

last point, we shall inquire directly in the next section. Before we move on, however, it will pay to add a few words on the apparent opposite of ASPD, and especially psychopathy, that being the prosocial personality. The prosocial, as opposed to the antisocial, personality is evidenced by actions which benefit others. Such actions need not come by way of (much) personal sacrifice. The prosocial personality exhibits a willingness to cooperate, a concern for others' welfare, and a willingness to share.[38] It involves a capacity, and a willingness, to take up the perspective of others, “perspective-taking,” so that one might best cooperate, help, and share the right things in the right ways.[39] Indeed, the neural structures responsible for this capacity are integral to learning not only how to do things, but also how it feels to do things, and not only what to do, but most importantly, *why* to do it.[40] “Perspective-taking” is an interesting aspect of moral psychology, deserving more thorough explanation. First of all, it must be noted that it is not that psychopaths lack an ability to take the perspective of another, it is only that, even in so doing, their deficit of morally important emotional information invites an incomplete picture thereof.²⁷ This function, taking another's perspective, standing in another's shoes so to speak, has been variously described and has a deep neurological basis. It has been described by Damasio and colleagues as the “as-if” loop, suggesting the full and direct self-embodiment of perceived and internalized emotions.[41][42]

As well, it has been described as a (very strong version of) simulation on the basis of research into the mirror neural system(s) by Keysers and colleagues, as such retaining Damasio et al's “as-if” terminology:

The discovery of mirror neurons has lead to the idea that we understand, at least in part, the goal-directed actions of others such as grasping and manipulating objects by activating our own motor and somatosensory

²⁷ An interesting side effect of this process being psychopaths' commonly reported feelings, special and different from others, isolated. In reflection on internal states, differences between self and other arise – as if part of the world is hidden from them. Our current focus denies further attention to this aspect of the psychopath's reported experience, but discussion on the generic mechanism at the core of this process can be found in [44].

representations of similar actions as if we had performed similar actions. This 'as if' component is why this process is called simulation.[43]

In particular, Keysers and colleagues approach the issue through an understanding that the feelings of an agent performing some action, of which expressing emotion is a special sort, can be directly understood because a witnessing, empathizing agent shares bodily constitution, including those neural “circuits” employed in expressing such emotions and actions in the first place, “ ... as a general and basic endowment of our brain that involves a linkage between the first and third person experiences of actions, sensations and emotions.”[45]²⁸ This model confirms the untutored understanding that empathy, feeling “as-if” another, or in these terms “simulating” the 'what it feels like to be another person,' is central to the process of taking another's perspective implicated in prosocial personality.²⁹ Implicated regions include the anterior cingulate and insula in the experience of self and other affect, confirming the involvement of somatosensory cortices in the “simulation” of others' tactile experiences.[46]³⁰ But, the simulation of affect generally involves “a mosaic of affective, motor and somatosensory components.”[45] Thus, “simulation,” feeling “as-if,” is both deeper and more complex than simply constructing an approximation of some evidenced action or expressed emotion. It involves the recreation of the entire embodied situation³¹ from which such emerge:

For example, hearing someone gurgle will evoke an inner “sense” of gurgling because the brain activates some of the same mirror neurons that are active when we gurgle ourselves. Given that both perceiving and executing

28 Page 2391. Though the quote above is taken from a part of the referenced paper in which the authors are laying out two different views on simulation, this quotation succinctly expresses their own position.

29 A capacity that is effective also when consciously directed, as well, as “thinking about the inner-states of others” is “effective at triggering mPFC activity.”[47] (Page 9.) This bears note as we turn to issues of treatment/correction in the final pages of this chapter.

30 Pages 379-80.

31 With special attention to recognizable salient aspects therein.

an action is not linked to the activity of a single neuron but of a widespread population of neurons, simulation and common coding theories can be interpreted as stating that the pattern of activity while performing an action should resemble the pattern while observing or listening to a similar action. This resemblance allows the brain to interpret an activity pattern similarly whether executing or perceiving.[47]³²

The important point here is in the interpretation of the activity pattern. Different actions are performed at different times for different ends, and it is in light of these ends that said actions are then determined appropriate, or not. Mirroring is holistic. One mirrors not merely some gesture, action, or expression in isolation. Rather, one mirrors actions, expressions, and gestures within the implicitly understood context that is shared human embodiment. For instance, it is in this light that a psychopath's lack of a startle-response to photos of mutilated persons is immediately felt to be inappropriate³³. Taking the perspective of another involves taking up the situation of another for one's own, at least for a moment, and it is only from this basis of interpretation that individual instances are interpretable as significant, and indeed readily and appropriately interpretable at all. Indeed, it is in taking up the perspective of a mutilated corpse that one may feel startled, immediately, with the startle response serving as an alert, to avoid such embodied ends. From this understanding, it is possible, as have Etzel and colleagues, Amodio and Frith, to inquire into how mirror neural systems facilitate human understanding not only of what others are doing, or how, but why these things are done.[47][48] To achieve good situations, and avoid others. Interestingly – to be important as our discussion turns to non-human entities later on – this capacity to take up another's perspective extends beyond human beings, employing the “shared circuitry” on which this empathic capacity is based in the empathic understanding of the situations of critters which simply do not share such circuitry:

32 Page 1.

33 Acquired sociopaths share a similar insensitivity.[49][50][51]

the brain appears to automatically transform the visual and auditory descriptions of the actions, sensations and emotions of others into neural representations normally associated with our own execution of similar actions, and our own experience of similar sensations and emotions. ... In the light of our results, it thus appears as though the shared circuit for actions responds to complex meaningful actions regardless of whether they are performed by humans and robots. Half way along this human-robot continuum, the premotor cortex also responds to the sight of animals from another species performing actions that resemble ours, such as biting.[46]³⁴

Prosocial empathy is not the same as altruism, and a point of distinction may be appropriate here. Altruism, naming a motivation to “increase another person's welfare,” may or may not be prosocial in consequence, and so should be regarded distinctly. For example, should one be motivated to make a white-collar-war-criminal's retirement easier, sheltering him from prosecution for past crimes out of a desire to “increase his welfare,” or for example to “save the Nation from the pain of putting past leadership on trial,” then one's altruistic motivations are indeed quite obviously not prosocial. One can empathize with the war-criminal, but in so doing the prosocial exercise of empathy demands similar treatment for his victims, a constraint that altruism does not share.

In the end, with prosocial and antisocial psychopathic personalities in view, we are presented with the concepts necessary to envision two extremes between which most persons generally fall. Contrast prosocial attributes with the psychopath's egoism, lack of empathy, and selfish pursuit of personal ends and what emerges is a sliding scale of social value, from constructive to destructive, with most persons, and most actions falling somewhere in the middle. They stand at opposite ends of a spectrum, a spectrum that confronts

34 Page 394. Keyser et al describe a form of simulation that, as mentioned above, is “strong” in that it is independent of higher level rational considerations of the form 'What is another thinking/feeling?' These sorts of considerations employ, by Keyser's account, so-called “theory-of-mind” (ToM) apparatus, where direct somatosensory simulation of the primary sort under their consideration exists prior to ToM recruitment. It is, as it were, a 'bottom-up' affect first approach to understanding “empathic” mental processes, in spirit with Damasio's “as-if” loop. These issues are important for the model of moral cognition to be described later in this chapter, as such a model, if adequate, must provide for both high and low-level processes in appropriate form and relationship. As far as a high-level, top-down root cause and mechanism for psychopathy, “It seems not. Psychopathic persons show no theory of mind impairment.”[27] (Page 731)

us all with the rather uncomfortable notion that psychopathy is not an all-or-nothing phenomena, and that we each may be closer to psychopathy than an all-or-nothing account would allow.³⁵

Some evidence for this continuity exists in the similarities that either extreme share. Psychopathic and prosocial personalities do share two things in common. It is unclear how to treat either: in the case of psychopathic personality, to diminish it, and in the case of prosocial personality, to encourage it. And, both proceed on the basis of information interred from the social situation in which the moral agent in question is embedded. The crucial difference being, as shall come more clear as this chapter continues, the sort of information getting processed.

And, as far as wider social influence goes, the sorts of actions that get passed along as informative, and worth re-enacting, as well as the sorts of emotional responses that are appropriate in given contexts, and so worth emulating.³⁶ We shall have a bit more to say on these points as this chapter closes.

5. WHO, OR WHAT, IS A PSYCHOPATH?

Just as there is a “revolution” in the way that psychopathy is conceived, so there is a similar revolution in the way that psychopaths are considered. For one thing, as mentioned in the last section, psychopathy is increasingly under popular consideration. It is not limited to professional discourse. Practically speaking, just who, or what, qualifies for psychopathy is often determined by a test. It is determined by the PCL-R, itself at least partially derived from the work of Hervey Cleckley. We briefly reviewed Hare's and Cleckley's respective checklists in the previous section, and from those and the upcoming DSM-V criteria, distilled three aspects –

35 This is the author's central concern in [7].

36 A process in which the mirror neural systems are central. For discussion on the first point, see [53]. For discussion on the importance of expressed emotions in providing information on emotional states, begin with [54].

selfish, opportunistic, and predatory - that we shall employ in comparison in the following illustration.

For illustration, consider a recent episode of the very popular NPR program, *This American Life*, dedicated to the issue of psychopathy.³⁷ During this program, the host, Ira Glass, and his staff all were administered the PCL-R by psychologist David Bernstein. They all thought that each would score at least some points on the test. However, in the end, Dr. Bernstein assessed them all with the same score – 0. And, the reason that Bernstein gave for this result was a blanket one, covering all of the tested subjects - they never “really did anything maliciously.”

You never set out to predate, to hurt anyone. And even those of you who've done things, when I asked how do you feel about it? Most of you thought back on it with regret, and remorse. You're empathic, is what you all are, which is the opposite of psychopathy.[52]

This diagnosis was surprising to the subjects involved, who all believed, having seen the checklist for themselves, that each would score some points due to past experience. For instance, one participant recalled stealing test answers from a teacher as a youth, and feeling badly about it. However, according to the expert, any such experience cannot contribute to a diagnosis of psychopathy when presented with empathy.³⁸ On the other hand, the model psychopath is a “predator” for whom such empathetic remorse is impossible. These radio people, according to Bernstein, were “far too neurotic” to be predators – that is, they cared about people and things far too much to be psychopaths.

Given that empathy is a core motivating prosocial virtue, part and parcel to being a 'good person,' why would anyone wish himself to be a psychopath? Psychopaths are not good people. The psychopath “... is constitutionally void of empathy and incurably

37 Named after and ostensibly inspired by the popular text *The Psychopath Test*, by J. Ronson.[55].

38 Underscoring the necessity that the PCL-R be administered only by a properly trained psychologist operating without a secondary agenda, i.e. Increase conviction rates for friendly prosecution, or get a murderer off for a generous defense attorney.

blind to reasons to treat others in morally acceptable ways.”[56]³⁹ Who wants to be THAT person? The question, for some people, however, may be closer to “Who *doesn't* want to be that person?” Consider the following charge issued by famed economist Milton Friedman in his landmark text, *Capitalism and Freedom*:

Few trends could so thoroughly undermine the very foundations of our free society as the acceptance by corporate officials of a social responsibility other than to make as much money for their stockholders as possible.[57]⁴⁰

Friedman here suggests that there is no obligation for the successful business leader to treat anyone in “morally acceptable ways.” For example, on this formula, there is no obligation to maintain a stable work environment so that people who loyally work the best years of their lives for a company can plan how to live out the last of them, at least no felt obligation. People who want to succeed in the cut-throat world of business must be prepared to be, well, cut-throat. They must be ready to change quickly, respond to rapid change not only in order to survive, but to maximize wealth, regardless of social ties. On the face of it, this sounds like an environment ideally suited to psychopathic personalities. According to Paul Babiak:

The psychopath has no difficulty dealing with the consequences of rapid change; in fact, he or she thrives on it. Organizational chaos provides both the necessary stimulation for psychopathic thrill seeking and sufficient cover for psychopathic manipulation and abusive behavior.[58]

Further, quoting Robert Hare:

I always said that if I wasn't studying psychopaths in prison, I'd do it at the stock exchange. There are certainly more people in the business world who would score high in the psychopathic dimension than in the general population. You'll find them in any organization where, by the nature of one's

39 Page 350.

40 Page 133. For support, he recruits Adam Smith from the *Wealth of Nations*. However, Friedman is misguided in doing so, as we shall see in some detail as this chapter continues.

position, you have power and control over other people and the opportunity to get something.[58]

Selfish. Opportunistic. And, in a world where whatever one wants, another already claims, *predatory*. Failing to treat others in morally acceptable ways is not a barrier to success in the world of corporate business, at all. In fact, it is something which might even, following Friedman, be required. Add to this recent evidence that empathy diminishes as wealth increases, and Friedman's capitalist injunction becomes a recipe for acquired empathy deficiency.[59]⁴¹ And, there is nothing wrong with that.

Consider the case of Al Dunlap. Interviewed in his own home by journalist Jon Rohson for his book *The Psychopath Test* (and replayed in the *This American Life* episode named after the book), Dunlap found nothing wrong with any so-called “psychopathic traits.” When prompted with a list of them, he recast the characteristic marks of psychopathy in favorable light. By his estimation, “manipulative” is the same as “leadership.” Grandiose sense of self-worth (narcissism by any other name) becomes a mantra, “You've got to believe in you.” Impulsivity? Quick analysis. Lack of remorse? “... frees you up to move forward and achieve more great things.”

Here, it should be noted that, in fact, Dunlap satisfies Friedman's injunction in both word and action. During his tenure at Sunbeam, stock prices rose 400%. During his first four months on the job, he fired nearly 6,000 people, some of whom having had worked for the company for 30 years. Clearly, Dunlap was not encumbered by any sense of obligation to treat other people in “morally acceptable

41 Predicted by Lobaczewski in [3]: “During “happy times” of peace dependent upon social injustice, children of the privileged classes learn to repress from their field of consciousness the uncomfortable ideas suggesting that they and their parents are benefitting from injustice against others. Such young people learn to disqualify disparage the moral and mental values of anyone whose work they are using to over-advantage. Young minds thus ingest habits of subconscious selection and substitution of data, which leads to a hysterical conversion economy of reasoning. They grow up to be somewhat hysterical adults who, by means of the ways adduced above, thereupon transmit their hysteria to the next generation, which then develops these characteristics to an even greater degree. The hysterical patterns for experience and behavior grow and spread downwards from the privileged classes until crossing the boundary of the first criterion of ponerology: the atrophy of natural critical faculties with respect to pathological individuals. (Page 176).

ways.” In fact, when prompted to answer how he felt about ending so many careers, tossing so many people into poverty, he proudly replied, “Looking back at my life is like going to a movie about a person who did all this stuff. My gosh, I did that. And through it all, I did it my way.”[52]

However, the opinions of others in similar positions are quite different. Said Windmere's CEO David Friedson of Dunlap's character, “He is the logical extreme of an executive who has no values, no honor, no loyalty, and no ethics. And yet he was held up as a corporate god in our culture. It greatly bothered me.”[60] In this opinion, Friedson gives us two things. First, he gives a peer-level description of the sort of personality who is elevated to “god” status in the current corporate culture, ostensibly as an exemplar of corporate virtue. Second, he gives us an answer to our question, “Why would anyone want to be a psychopath?” (Or, at least, express some psychopathic traits.) Why? To be a corporate god.

Some interesting facts about Dunlap emerged from this interview. One being Dunlap's personal admiration for predators. The interviewer was surprised by “the unusually large number of ferocious sculptures there were of predatory animals.” A collection of which Dunlap himself was quite proud. “I believe in predators. Their spirits will enable you to succeed.” Predators use aggression, violence, instrumentally, to succeed, to dominate others, itself a mark of psychopathy, and is something that administrators of the PCL-R are advised to be on the watch for; yet, his emulation of them is not something that shows up on the checklist, explicitly.

Another interesting fact about Dunlap is that he, at the time of the interview, had been married to the same woman for 41 years. He had not many shallow, short-term sexual relationships – at least not to which he would confess during an interview in front of his wife! And, given his history, this sort of discipline may not be all that surprising. He was not a disorderly child, and had no problems with conduct. In fact, he testified to having no problems conducting himself, as an adult, trumpeting the need for sound executive functions in order to reach any station in life:

Listen, this psychopath thing is rubbish. You can't be successful unless you have certain," he pointed at his head, "controls. It won't happen. How do you get through school? How do you get through your first and second job, when you're formulating yourself?[52]⁴²

Two things are of interest, here. One is that the preceding dimensions are increasingly given less weight as the consensus on psychopathy evolves. Being married for a long time does not make a psychopath any less dangerous and destructive. In fact, one might easily argue the contrary. Another is that Dunlap's last statement strikes to the heart of the issue, distinguishing psychopathy from other "personality disorders." ASPD may involve diminished executive functioning. Psychopathy, however, does not. In fact, the prior assumption that psychopaths were of lower than average intelligence has been thrown out the window. The facts are quite opposite, leading to the descriptive phrase "snakes in suits." Cold. Cunning. Amoral. But, not stupid. Dangerously clever. All of this speaks to the need to conceive of psychopathy outside of other disorders.

In a way, Al Dunlap is correct: this psychopath thing IS rubbish. At least *part* of it is. Who, or what, is a psychopath? Given systemic pressures due to the neo-liberal capitalist environment, successful people, leaders, and in fact non-human entities designed to succeed in this field – corporations and other institutions – are prime candidates.

Indeed, it is easily observed that the contemporary economic and political environment is a haven for psychopaths, with the rapid change, the systemic capacity for selfish manipulation, and the seemingly unforeseeable, seemingly spontaneous presentation of opportunities for personal gain at others' expense providing the best of all possible hunting grounds for social predators." Most importantly, these opportunities are not limited to simple profit maximization. When increasing wealth at all costs is one's only felt

⁴² In fact, this point can be taken to emphasize a distinction between the so-called "successful" and "unsuccessful" psychopath. It is the unsuccessful psychopath who is prone to impulsive behavior and physical aggression. This distinction can be attributed to Belinda Board and Katarina Fritzon, as reported in [58].

obligation, this invites more egregious acts of aggression, and violence, in the pursuit of the predatory dominance that secures that wealth. Consider in this light current events, in Nigeria, Yemen, Iraq, in Libya, in Syria, in Afghanistan, and in Iran, alongside the following recent comments from noted political economist Edwin Veira:

Psychopaths - with whom modern governments have been staffed to superfluity throughout the Twentieth Century and even unto this very day - do not usually think in strict economic terms of "cost versus benefit"... I harbor no doubt that psychopaths in positions of power would not shrink from murdering anyone who stood in their way – whether particular individuals, economic classes, races, and so on. Have they ever shrunk from mass murder?[61]

Granted the accuracy in Veira's reflections – he seems to hold that most if not all major social conflict is due to the actions of psychopaths from especially politically powerful positions in society and the world - the full scale of influence of psychopathy on the contemporary world is difficult to address. Indeed, given that any psychopathic directive to “mass murder” will not be carried out by the commanding psychopath, himself, in order to address the full influence of psychopathy on global society, we must focus on the structures of institutions that act on psychopathic schemes, themselves.

This scale of organization is beyond conventional psychological approaches to understanding psychopathy.⁴³ In today's pursuit of fine-grained neural-level models of moral-psychological phenomena, missing the immorality of psychopathic institutions is akin to a “forest for the trees” phenomena. It is easy to lose sight of the “moral” in the “moral psychology” of psychopathy, when the subject will not fit into a portable MRI and “treatments” may not fit the easily patented and marketed single-vector pharmacological model. In the frenzy of research, largely deriving from the recent technological revolution in brain imaging, all of the talk of deficiently integrated amygdala, lack of excitement upon the

43 It is the focus of [3], however.

presentation of pained facial expressions, deficient hippocampus, various higher-order speculations on gestational exposure to chemicals, zero-negative empathy, Stroop task performance, and so on, can easily cover over the most important aspect of psychopathy, and the motivating rationale behind understanding psychopathology in the first place – psychopaths hurt people, make the world a worse place in which to live, and, when vested with power in powerful positions, exercise this power in - especially poignantly given current affairs – extremely destructive ways.

Psychopaths are not limited to acting alone, in the mold of the well-worn profile of charming serial killers like Ted Bundy and John Wayne Gacy. They use tools, institutions, to extend their reach. The revolution in the conception of psychopathy, likewise, must not be limited to individual psychopaths should we wish to fully understand the impact of psychopathy on the social order. In order to understand the full impact of psychopaths on the contemporary social order, we must understand not only psychopathic personalities, but psychopathic institutions.

Some popular attention has been directed to this issue, already. Consider the popular film (and book) *The Corporation*.^[62] This film develops the notion that the modern corporation – especially given its legal status as a 'person' with all corresponding rights, yet few of the corresponding responsibilities – is a psychopathic entity.⁴⁴ According to *The Corporation*, corporations pursue their own self-interest against and exclusive of the interests of any and all affected parties, corporate, individual, conventional/legal, or natural. This view accords with the fact that the executive functions of corporate entities are effectively those of their leadership, and their leadership is effectively driven to satisfy Friedman's above quoted injunction, to maximize profits as sole social obligation. However, even when the actual leadership is not constituted of psychopathic personalities, the mission statement of the corporation constitutes a psychopathic

44 A corporation is an artificial entity created to ideally embody and so permit action motivated according to Friedman's injunction, as quoted above. Thus, the notion that a corporation may 'treat people in morally acceptable ways' due anything but simple accident, that a corporation has a "conscience," is pure fabrication, contrary as it is to the very spirit of its creation. Indeed, pure public relations spectacle.

entity in the corporation, itself. Since the 19th century, and reaffirmed as recently as 2010 in *Citizens United versus the Federal Election Commission*, corporations are legally designated artificial persons, with (most) all of the rights afforded to natural person, yet none of the obligations to society, to self, and indeed to the natural world.⁴⁵ An expectedly unfriendly review of the film, from *The Economist*, summarizes the corporate profile as follows:

Like all psychopaths, the firm is singularly self-interested: its purpose is to create wealth for its shareholders. And, like all psychopaths, the firm is irresponsible, because it puts others at risk to satisfy its profit-maximizing goal, harming employees and customers, and damaging the environment. The corporation manipulates everything. It is grandiose, always insisting that it is the best, or number one. It has no empathy, refuses to accept responsibility for its actions and feels no remorse. It relates to others only superficially, via make-believe versions of itself manufactured by public-relations consultants and marketing men.[63]⁴⁶

The message of *The Corporation* is that corporate entities, by design and regardless of constituent proclivities otherwise, instill an unhealthy environment within and create an unhealthy environment outside of their confines, destroying ecosystems, social networks and political systems in their single-minded pursuit of power and profit. Regardless of who runs them - just as regardless of who detonates a

45 Though immortal, corporations do not depend on clean air and water for health, as they do not “live,” even though presumed through legal convention to be entities of the for of persons under law. As for the recent cited Supreme Court ruling, “Citizen's United,” especially poignant language supporting the point, that corporations are held to be persons under law, in this case regarding freedoms of speech to affect political elections, can be found in the court's opinion delivered by Justice Kennedy, on pages 25-26. Here, Kennedy speaks of (natural) persons – human beings - and of corporations in under the same general terms, “persons,” in opposition to any Government intervention (law) that should “may impose restrictions on certain disfavored speakers,” (page 25) concluding this point with the following declaration: “The Court has thus rejected the argument that political speech of corporations or other associations should be treated differently under the First Amendment simply because such associations are not “natural persons.”(page 26) This judgement can be read at <http://www.law.cornell.edu/supct/pdf/08-205P.ZO>.

46 A summary fully in concordant with the film's interview with Robert Hare, and likely based thereupon. Of course, the reviewer, given the medium and audience, deflects any criticisms away from corporate malfeasance, to State malfeasance, in a sort of “But THEY do it TOO!” display of tit-for-tat.

bomb – it is in their nature to be destructive. In the film, Noam Chomsky provides the following analysis:

When you look at a corporation, just like when you look at a slave owner, you want to distinguish between the institution and the individual. So, slavery, for example or other forms of tyranny, are inherently monstrous, but the individuals participating in them may be the nicest guys you could imagine – benevolent, friendly, nice to their children, even nice to their slaves, caring about other people. I mean, as individuals they may be anything. In their institutional role they're monsters because the institution is monstrous. And then the same is true here.[62]⁴⁷

Free from human moral constraints, these psychopathic institutions, these “monsters,” continue to exercise increasing influence over the shape of the world and civilization at large, as one would expect from an immortal predator for which growth and dominance at others' expense are the principle goods. “Corporations are artificial creations. You might say they're monsters trying to devour as much profit as possible at anyone's expense.”[62]⁴⁸ Such is the world we live in, an economic order exactly the inverse of that envisioned by Adam Smith, populated by entities, human and otherwise, seemingly designed for its destruction:

Society ... cannot subsist among those who are at all times ready to hurt and injure one another. The moment that injury begins, the moment that mutual resentment and animosity take place, all the bands of it are broke asunder, and the different members of which it consisted are, as it were, dissipated and scattered abroad by the violence and opposition of their discordant affections.[64]⁴⁹

47 Page 14. Text checked against transcript retrieved from http://hellocoolworld.com/files/TheCorporation/Transcript_finalpt1%20copy.pdf.

48 *Ibid.* Page 3, quoting Howard Zinn.

49 Page 129. And, directly contrary to Friedman's interpretation of Smith's designs.

6. THE ACTWITH MODEL

One of the major challenges in trying to elucidate the structure of psychopathy is that, as a latent construct, it is not directly observable.

Robert Hare and Craig Neumann[14]⁵⁰

Although not due to direct clinical observation, from the preceding discussion it becomes clear that a model of psychopathy applicable to both individual human and to institutional subjects is necessary in order to evaluate, identify, and perhaps rectify psychopathic agents in the current global economic and social environment. And, although natural persons differ from artificial legal constructs in their form of embodiment, incarnation, or “incorporation,” these entities do share one important dynamic. All such entities process information, and due to the sorts of information that are processed, in which contexts, and how, different actions can result. We reviewed some of the differences in the sorts of information available to psychopaths in previous sections. Psychopaths have a diminished, specific capacity to realize fear, disgust, and so fail to appreciate emotional cues which serve otherwise to discourage actions harmful to other sentient entities. When this deficiency is integrated into the perspective taking consonant with prosocial personalities, through Damasio's “as-if” loop understood as a somatically rich manifestation of mirror neural system potential, the agent in question is not hindered in putting others into worse situations, as, effectively, the agent processes no information that might dispose him/her/it to the contrary.

Given this summary, any model of psychopathy must, as an adequate model of moral cognition, generally, be equally able to model the broad scale of moral action, from “monstrous” to “altruistic,” from antisocial to prosocial, from individual to institutional.⁵¹ The ACTWith model is designed to do this very thing,

50 Page 231.

51 Likewise, “A theory of psychopathy needs to be a theory of healthy cognition together with an account of how the systems can become dysfunctional so that the disorder can emerge.” [18] (Page 79)

to provide the minimum necessary information processing representation of moral cognition in an implementation/neurobiologically/organizationally non-specific format suitable for evaluation of moral agency. In essence, the ACTWith model was conceived in order to answer questions like the following, in a form consistent with contemporary neurology and moral psychology, while remaining popularly accessible through a simple and intuitive form representing deeply held popular moral convictions:

Not only do we feel that we need very little explicit thoughts to understand the actors, we actually share their emotions and motivations: our hands sweat and our heart beats faster while we see actors slip off the roof, we shiver if we see an actor cut himself, we grimace in disgust as the character has to eat disgusting food. This sharing experience begs two related questions: How do we manage to slip into the skin of other people so effortlessly? Why do we share the experiences we observe instead of simply understanding them?[46]⁵²

The ACTWith model is primarily an information processing model. Information processing models are central to cognitive science, likening the way that human beings think and feel to the way that a computer processes information. On this approach, both take in information, both organize and store information to be used in formulating responses, whether these be actions and decisions or simply ready retrieval of data. Both have processing systems, and both have subsystems dedicated to the processing of specific information. Computers have graphics cards, storing maps of screens and levels so that a young computer gamer can navigate that new first-person-shooter at 60 frames-per-second, human beings have a neocortex. The computer has a keyboard, mouse, trackpad, joystick, microphone, camera, and other forms of input. The human, an array of sensory organs together constituting the sensory register.

In this chapter, we have identified some areas of brain thought responsible for psychopathy, as well as for normal moral cognition. Psychopathy is largely confined to subsystems responsible for a specific form of information processing, emotional processing. As

for the rest of it, theory of mind apparatus (something perhaps approximated in some computer game software agent level a.i.'s, but otherwise missing from modern computers so far as being a part of hardware goes), sensory register, and graphics processing, we can assume that in the general case of psychopathy, all is in relatively good order.⁵³

The ACTWith model was originally conceived as a model of conscience. We have briefly reviewed the responsibilities of conscience in the second section of this chapter. The responsibilities of conscience map onto those now accounted for by other means, such that conscience can be understood as that complex of reason and emotion that guides conscientious agents to do the right things at the right times, becoming through their actions the best that they can be. Conscience by this understanding is not a faculty, a module, or an isolated “voice.” The ACTWith model is conceived of as a dynamic systems model, and conscience effectively determines the values of dimensions guiding the activities natural to a dynamic system.[68][69] A dynamic system seeks a low-energy stable state, or equilibrium, in terms of its environment. Conscience effectively determines in which dimensions this situation is evaluated, and how these dimensions are weighed.

For illustration, consider “pathological lying.” For many people, reporting untruths is the cause of great stress – a high-energy state. Being caught in an untruth is not a situation that most persons actively seek, and the surest way to avoid it is to not utter untruths in the first place. This proclivity may be accounted for in many ways - accounts in terms of evolutionary biology or social psychology are easily enough generated – but in terms of the ACTWith model, as in traditional moral terms, lying is the wrong thing to do because it puts

53 Specifically, we can understand psychopathy as local to one thread of the mirror neural system, that dedicated to mirroring emotions rather than actions. In the psychopath, action-mirroring apparatus (mirror neural structures coupled with premotor and in some cases motor structures) are fully operational, while affect-mirroring apparatus (mirroring and emotively-expressive domain matching structures) are not. For more on the distinction, see [65]. For discussion on the activity of 'anti-mirror' neurons that keep motor neurons from mimicking every perceived action, see [66].

one's self (and others) into bad situations.⁵⁴ Contrast the above with a psychopath who employs untruths to manipulate others in self-centered pursuit of his own selfish ends. Gone is the stress of being caught. Though still not a situation actively sought, here being caught in a lie is avoided for different reasons. Foremost, it may mean not securing his selfish end. This is not why most other people want to avoid being caught in a lie, however. In short, having bad information means entering into situations that are inaccurately understood – it means doing the wrong things at the wrong times to the wrong ends – and this is to be avoided because doing the wrong thing at the wrong time can be painful. Lying to others can cause suffering.⁵⁵ And, we have already seen that this is not a factor for the psychopathic mind. The ACTWith model is a cycle of information processing, bottom-up, affect-first.⁵⁶ It was originally informed by Ron Sun's CLARION architecture, modeling human learning.[72] [73] From human neural processing, the original model proceeds from two key insights into neural mechanisms of moral cognition, disgust and mirroring of expressed action and emotion.[74][75][76] From a dynamic systems approach, it models not isolated agents, but situated agents, and is thus essentially a model of situated cognition. Although not designed according to any given theory of situated cognition, the influence being a deep and philosophical one, it is consistent with situationist psychology [77][78], and represents a strong form of embodiment.[79].

54 This is effectively Kant's analysis, directed as well by conscience, as detailed in terms of the ACTWith model in [68][69] and [70]. Interestingly, Kant and Mill agree on the role of conscience, analysis in [68] and [70]. I will provide only a brief summary of these arguments in illustration, here. In the study of neurology, one point of interest is the complexity involved in planning for the interests of different, often disparate, others deep into a future temporal field. Some work into this area is undertaken by Grafman and colleagues, as reported in [71].

55 And, interestingly, arguments for exceptions to the imperative “Do not lie” are typically sought under the headings “But, it won't hurt anyone” and “ But, it will minimize suffering.”

56 This structure is consistent with results from experiments involving psychopaths and images of mutilation, for instance, where immediate affective reactions are missing (startle-response), and involving the verbal characterization of emotionally laden images, in which psychopaths give relatively delayed responses. As the ACTWith cycle is affect-first, there is a corresponding delay in rendering top-level determinations.

ACTWith stands for “As-if Coming-to-Terms-With.” It consists of four modes, which can be considered in isolation. Two belong to a top (rational) level and two to a bottom (affective) level. The “as-if” operations involve feeling a situation out (one's own or another's), while the “coming to terms with” operations involve defining the situation in terms of the things originally felt.⁵⁷

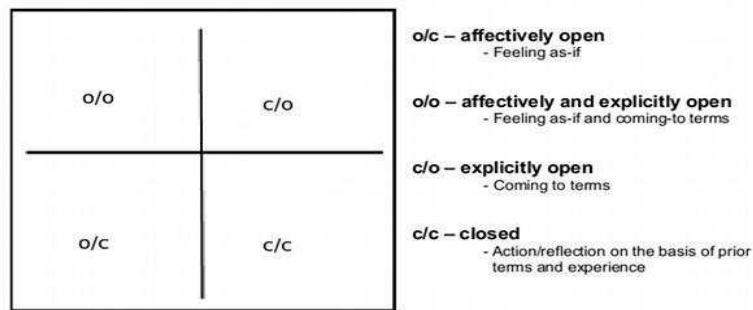


Figure 1: Basic ACTWith model consisting of four static modes.

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This is straightforwardly bottom-up hybrid in conception, intended to represent the bare minimum architecture providing for the eventual emergence of morality. In all, routine information processing styles add up to cognitive styles, or habits, and in terms of the ACTWith model these can be rendered as characters, habitual modes of moral cognition. First, for the model itself, see (Figure 1: The basic ACTWith model).

The model consists in 4 modes, each representing a combination of closed and open affective and rational operations:

- As-if (closed) coming to terms with (closed)
- As-if (open) coming to terms with (closed)
- As-if (closed) coming to terms with (open)
- As-if (open) coming to terms with (open)

⁵⁷ It is at this top level that ToM reconstructions of another's situation come into play, for instance.

The best way to illustrate these four modes of computation is through an actual description of their exercise. Consider the following passage from Adam Smith's *Theory of Moral Sentiments*:

By the imagination we place ourselves in his situation, we conceive ourselves enduring all the same torments, we enter as it were into his body, and become in some measure the same person with him, and thence form some idea of his sensations, and even feel something which, though weaker in degree, is not altogether unlike them. His agonies, when they are thus brought home to ourselves, when we have thus adopted and made them our own, begin at last to affect us, and we then tremble and shudder at the thought of what he feels.[64]⁵⁸

In this passage, there are a number of processes that require representation, and all of these are related in a systematic way. There are affective and rational processes, and they are employed in an affect-first empathetic movement as an exercise in “perspective taking.” This process doesn't describe mere pity. One does not merely feel badly for another person's suffering. Smith describes a completely immersive condition in which one takes another's situation for one's own, brings that situation “home” to one's self. In this way, one feels as-if one were in that situation, and from this stable perspective, is able to take time to reflect on the complex horizons that would be a life lived from that position forward. Only from this point of view do the threats and urgencies come clear, and due to shared bodily constitution one may realize threats to health and happiness, even risks of death and injury, that belong to another's situation. Thus, Smith describes a process far more complex than simple empathy, though it is rooted in empathy. Smith

58 Section 1.1.2. Smith is most famous for authoring his *Wealth of Nations*, but he was renowned before that for having authored *Sentiments*. There is some debate over the contiguity of these two works, with some suggesting that Smith broke from the motivation to virtue (effectively Aristotlean) that he suggested drives progress in *Sentiment*, to trumpet pure self-interest in *Wealth*. I am not one of those persons, however, as there is no evidence for any such shift in deep personal values in the rest of Smith's life to motivate such a dramatic loss of faith in human virtue. Others, such as Friedman as quoted earlier, focus on the rational self-interest apparent in *Wealth*, for two reasons in my opinion. One, ignorance of Smith's life, career, and early work. And, two, self-interest.

describes a holistic mirroring process, from bottom to top, much as we find described in recent literature today.

In Smith's description, each operation of the ACTWith model has its role. Consider the same passage, appended with ACTWith shorthand:

By the imagination we place ourselves in his situation [O/C], we conceive ourselves enduring all the same torments [O/O], we enter as it were into his body[C/O], and become in some measure the same person with him [C/C], and thence form some idea of his sensations [O/C], and even feel something which, though weaker in degree, is not altogether unlike them[O/O]. His agonies, when they are thus brought home to ourselves [C/O], when we have thus adopted and made them our own [C/C], begin at last to affect us, and we then tremble and shudder at the thought of what he feels [O/C].

As we can see, the different operations within the ACTWith model work in a cycle to bridge the differences between situations until another's situation can be “adopted” and made one's own. But, in order to represent the movement through this cycle, the basic static model of conscience must be rendered dynamic. Traditionally, conscience has been equated with the human heart, the heart long ago being thought as the seat of compassion, and love. In deference to tradition, in order to retain deep-rooted folk-psychological moral concepts, this dynamic version of the ACTWith model is called the “Beating Heart of Conscience.” See (Figure 2: The Beating Heart of Conscience).

In Figure 2, we see that the information processing cycle begins with affect, with the perceiving agent opening to the input of affective information. At this first stage, incoming affect, if interpreted, is interpreted in terms already belonging to the perceiver's experience and understanding.

At the next stage, the perceiver opens rational faculties to understand the other's affect as-if that other's situation were his/her own. This means 'putting one's self into the shoes' of that other, completely, taking that other's interests for one's own, confronted as it were with all the anxieties that confront a living being in terms of that situation. In the third stage, the perceiver closes to further

affective input, and turns top-level faculties to 'digest' the information gathered, weighing significances of objects, searching for options, evaluating apparent opportunities, and generally generating the resources necessary to answer questions in the form of "If I were you" or "If you were me...?" The final stage is an action stage, where information is no longer coming in, and one acts (or not) on the basis of information already gained and reflection already carried out.

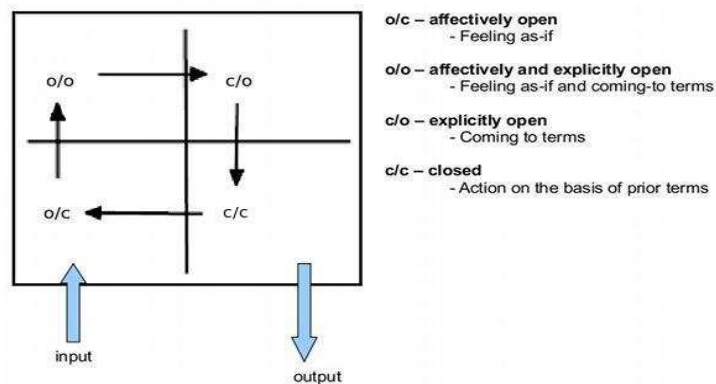


Figure 2: The Beating Heart of Conscience

Figure 2. The Beating Heart of Conscience.

Now, there are some points to highlight, here. First, action is not required at the final stage. There is no reason internal to the model keeping an agent from spinning around in this cycle, feeling out situations as deeply as time allows, empathizing 'till the cows come home.' And, in any case, more than one computational cycle is likely necessary in order to gather enough information in order to ground responsible actions. Second, all top-level interpretation is limited by personal experience. One cannot understand what one does not understand, simple as that.⁵⁹ In the end, it is this limitation by experience that is both the most inspiring, and the most intimidating,

⁵⁹ A point supported in recent research in mirroring actions and activities, to say nothing of the selective attention naturally given to that which one does understand.

aspect of the the model. In terms of psychopathy, however, the implications are much easier to grasp.

7. INTERPRETING THE MODEL

Psychopaths are specifically right-hemisphere deficient in the recognition of specific vicarious emotions, especially disgust, pain, and other negative emotions, and so are effectively blind to emotional distress cues. These processes are represented by affective processes in the ACTWith model. Psychopaths are not deficient in left-hemisphere specific verbal proficiency – i.e. psychopaths are able to describe, account for, and thereby manipulate non-psychopaths into presuming that the psychopath feels similarly to non-psychopaths, almost as efficiently as non-psychopaths, when this is only a post-hoc remediation. These processes are represented by rational processes in the ACTWith model.

Altogether, the psychopath is easily modeled by the ACTWith model's dynamic. Failing to open affectively to specific emotional information in the form of facial expressions, for example, in the first and second modes of the model, the psychopath is able to bring high-level reasoning functions to bear in tracking the visual data against changes in others' behaviors. This delayed reasoning process, embodied in the model as a “skipped” first two modes of affective processing (being as it is a bottom-up affective- first model of cognition) squares with received data regarding a lack of startle response when confronted with visual representations of mutilated bodies (i.e. fear and disgust invoking images).[18] There is no startle response because the psychopath does not begin processing startling information at a stage that generates reflex actions, generically bottom-up, but rather only during stages of processing from which top-down actions originate.

What about institutions, corporations, States, and collective entities generally speaking? The advantage of the information processing approach modeled in the ACTWith model is that there is no specification of shared circuitry. Rather, the emergent property of

properly functioning human neural circuitry, i.e. empathically motivated moral cognition, can be traced to any given functional group in which relevant and necessary processes are carried out. In the case of a human being, these may include the insula, anterior cingulate, amygdala, medial prefrontal cortex, and others. In the corporation, the analysis may focus on these same regions within the minds of corporate leadership, or, if claims of corporate personhood are to be taken literally and at face value, then on offices within the corporate structure designated for the performance of such processes. In either case, actions can be evaluated on the basis of information processed, weighted, and implicit in motivation. And, in neither case, regardless of the fundamental capitalist injunction to maximize profits regardless of other social obligations, should immoral action go without sanction, externally imposed when internal sanctions fail.

A note about sanction may be useful, here. At the forefront of Western moral philosophy, John Stuart Mill placed conscience at the heart of his utilitarian theory. Conscience serves two purposes on his account. First, any proposed end or action to pass his utilitarian formula must first pass the muster of conscience. No action, regardless of payoff, is right if it doesn't feel right. Second, any action undertaken that does not pass this muster, yet is undertaken in any event, is subject to the sanction of conscience after the fact. Indeed, for Mill, the pangs of conscience are so acute as to motivate anyone with conscience away from its violation, and by this estimation conscience, for Mill, was enough to guarantee that his theory of utility would no be misinterpreted and misapplied.⁶⁰

Sadly, Mill did not account for the modern corporate person, an entity by purpose and design without conscience. And as it has been said that corporations as essentially entities without conscience, then corporations are essentially without sanction for immoral actions on Mill's schema. Should we seek to reform such entities, it seems that

⁶⁰ In the third chapter of Mill's *Utilitarianism*, "Of the Ultimate Sanction of the Principle of Utility," he writes that conscience is a "mass of feeling which must be broken through in order to do what violates our standard of right, and which, if we do nevertheless violate that standard, will probably have to be encountered afterwards in the form of remorse." [80] (Page 277.)

sanctions common today, mostly monetary fines, are not the answer. After all, these monies are merely transferred from one institution to another, from corporation to State, and it is difficult to see how moving currency from one entity without conscience to another is going to deter future immorality. The offending entity merely performs a cost-benefit analysis, weighing risks against potential profits, and then acts on the basis of Friedman's injunction – this is all perfectly rational. Expected.

This observation demands some further considerations for the treatment of psychopathy in both individual agents as well as collective entities like corporations and States. On the one hand, there are issues internal to the entities in question that bear attention. On the other, as the previous passage implies, there are issues endemic to the system within which we all live, and along with corporate persons, act. In my mind, the way to stem the social damage caused by psychopathy at both levels of organization lies primarily in the direction of systemic reform. In any event, an information processing model like the ACTWith model should prove a useful tool.

The ACTWith model provides a map of information processing against which the processes of agents can be checked and measured. For example, the model makes clear that, should executive level intervention be desired, time and resources must be permitted for the reflection on morally relevant information. In the ACTWith model, this is represented by specific modes of information processing. In a corporate environment, this means specific modes of information processing. In the individual agent, the same. Consider in another instance the impaired capacity for psychopaths to distinguish between the moral and the conventional. Should reform be desired, entities in question must be made to “feel” the moral contents which form the distinction. In ACTWith terms, they must not “skip” the first two stages of information processing. And, regardless of constitutional incapacities to directly effect the processes within these stages, some surrogate must be provided for so that down-field

processing weighs moral dimensions appropriately.⁶¹ A similar approach may be envisioned in terms of psychopathic entities who harm others and, even when confronted with the damage done, continue to act in the same ways. Here, bear in mind the abusive cop who consistently applies excessive force in unwarranted situations, the callous sweat-shop owner who maintains a strict no-bathroom policy throughout long workdays even after some employees have committed suicide complaining about harsh conditions, and the global corporation which, say, destroys an ocean ecosystem cutting corners while trying to maximize profits causing a series of devastating oil leaks begun with a spectacular explosion causing the immediate deaths of perhaps a dozen people, the near-term deaths of countless sea-creatures, and the long-term deaths and sickness of millions more local human and animal residents, only to continue in the same practices in remote areas of the world. All of these cases show that morally relevant information is not being fed downstream, from the first stages to the action stage of the ACTWith model, so that offending acts continue to be executed. By the model, the situation of the other must be “brought home” to one's self, or the empathic cycle is not complete. Thus, the ACTWith model may be in these cases used as a template into which the offending entities are placed, perhaps in extreme cases physically removed from present positions and placed in positions alike those of their victims. The cop, perhaps put into general population, in prison. The sweat-shop owner, perhaps made to work in the same conditions that he imposes on others. These suggestions are not revolutionary. They reflect deeply-held moral convictions, that justice is fairness, and that an eye deserves an eye. The ACTWith model only provides a formal framework into which the offending entity can both enter, and from which he/she/it can leave once evidence of appropriate downstream processing is embodied.

Of these cases, the corporation poses a particular trouble, as the situations that are to be traded do not readily translate from natural to artificial persons. BP cannot take the place of a 5th generation Gulf

⁶¹ Some efforts have been made, for example, in exposing psychopaths to the victims of their crimes, in essence forcing an approximation of the o/c stage of the ACTWith model.

fisherman and his family, ruined because BP executives felt only a single social obligation, to maximize the profits of shareholders who in no way suffer from the ruination of what had once been one of the most bountiful natural reserves on the planet. In such cases, it may be useful to consider some modification to existing corporate law, such as that put forward in [67], with an additional caveat, that any natural person serving in direct executive functions towards corporate actions which evidence psychopathic traits – selfish, opportunistic, predatory – must rather directly take the place of some offended party to be determined either by lottery or democratically, amongst the field of offended parties, while the victim gains trusteeship over those same executive functions without reservation and at the expense of the corporation and its shareholders, at least and until evidence of appropriate downstream processing is, by interred executives, embodied.

Now, as extreme and unlikely as this proposal may seem, it brings to attention two important points. One, such avenues to correction and prevention of social injustice caused by psychopaths at every station and level of organization depend on systemic changes. Presently, “lawful” corporate influence over the political process in the U.S., as reflected in the Citizens United case and decision, forbids any such mechanism. Until laws that permit the corruption of the system through which such laws emanate are overwritten, no such mechanism is possible, and the corporate monsters reign freely. This dysfunction is itself a dynamic that can be modeled according to the ACTWith model, with the State apparatus taking the role of the corporate entity, but this analysis must wait for another time.

Second, moral reform differs from individual to collective entity. As for psychopathy induced by deficient or defective neural integration of the amygdala with relevant regions, or defects in the amygdala and/or the insula and perhaps other relevant regions, directed moral self-education may not prove useful, and indeed may prove impossible. Hardwired deficiencies may not be overcome, regardless of constant exercise intended to heighten top-level

awareness to morally relevant dimensions. But, such remains to be seen.

In some ways, there is promise of structural correction beyond the removal of dysfunctional regions. As is well known, deficiencies in neural processing, when regions are damaged during traumatic injury, especially, can be offset by recruitment of other brain regions to the processing of necessary task information. This process may hold promise in the correction of psychopathy of purely physical origins, given the right sort of therapy and enough time. The ACTWith model could provide an easily accessible model for the patient of the sort of processing that *should* be going on in his/her brain, give him/her something to envision, and aim toward during therapy exercises, as well as illustrate the sort of processing that actually is going on, and that stands in need of correction. In such an approach, thus, the ACTWith model may prove an indispensable tool, as would any similar model so long as it were conceptually accessible and morally significant to the patient.

However, it is not clear how the brain can be brought to recruit unrelated regions to processing tasks that it had, globally, never undertaken, as would be the process involved for psychopaths born with amygdala and/or insula dysfunctions, for example. Christian Keysers, speculating on the question whether new mirror neurons can be grown, suggests that they might.[81]⁶²

If Keysers' speculation extends throughout the neural system, not limited to mirroring neurons alone, perhaps aided with chemical/medicinal stimulus,⁶³ then there may be some hope for the reformation of psychopathic neural systems through directed moral training. As far as treatment of artificial entities goes – corporations, institutions, States, and other forms of “collective entity” - the trick here is to “grow” the mirroring apparatus, and provide necessary

62 “Can we develop new mirror neurons? Hebbian learning suggests that performing an action while seeing and hearing oneself perform it should be enough for neurons involved in performance to start responding to the sight and sound of the same action. The fact that five hours of piano lessons suffice for the premotor cortex to start responding to piano music supports this view.” (Page 972).

63 For instance, marijuana has been shown to encourage the growth of new neurons in the hippocampus, a rather encouraging fact.[82]

resources for the mirrored affects to be matched within said entities. Moreover, such matching must be permitted to be motivational, both in one-off actions and in matters of policy (moral habit formation).

Surprisingly, given the fact that the pieces of a corporate entity are more easily interchanged, or “grown,” the reformation of corporations may prove easier than that of individuals.⁶⁴ It may be that corporations *can* have a conscience, after all. This is a promising note, and a promising note is a good place to end.

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⁶⁴ On this count, given accessible and actionable information, Lobaczewski is upbeat: “If societies are furnished an understanding of the pathological nature of evil, they will be able to effect concerted action based on moral and naturalistic criteria.”[3] (Page 302)

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