

# THE SOCIAL BRAIN

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**Abstract.** This paper consists in two arguments: one that argues the philosophical foundation of Collective Intentionality in terms of social perception, and the other a neurobiological argument that proposes the neural functions for the perceptual capacity of sociality. Social perception as a two-pronged capacity of social identification and social bonding forms a specific type and is therefore irreducible to any other perceptual capacity. The biological argument proposes the Orbital Frontal Cortex as the seat of sociality, and data is provided to corroborate this claim. Finally, the question of the irreducibility of Collective Intentionality is considered in light of the irreducibility of social perception and the neurobiological data.

## I. Introduction

In the 20th century, philosophy of mind explored the subjectivity of intentionality as a property of the individual perceiver's conscious states. In fact, the very notion of subjectivity primarily suggests singular point of view. But in the past two decades, a new notion of subjectivity has gained interest and that is the idea of collective subjectivity—a conscious state that can be had only in virtue of at least  $n+1$  individuals. This particular subjective state has been dubbed *Collective Intentionality* and it is now not only a subject of interest for philosophy but a subject of interest for other fields as well.

While the phenomenon of collectivity is accepted, the nature of Collective Intentionality is in dispute. For example, is this collective subjective state constructed by social practices, including language (Tuomela-Tomasello)? Does it require commitment (Gilbert)? Is it basically a strategy for achievement of personal goals (Schelling-Olson)? Is it reducible to individual subjective states (Bratman) or is it a primitive irreducible cognitive state (Searle)?

These questions in turn raise questions for a biological account of collective intentionality. We can infer that if Collective Intentionality exists, then it exists in virtue

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of our neurobiological makeup. The question about the nature of Collective Intentionality can then be extended to the nature of the neurobiological apparatus that facilitates Collective Intentional states at the cognitive level. It would seem that if we could find a specific neurobiological function in the brain for Collective Intentionality, then we could prove at the very minimum that Collective Intentionality is irreducible. What could be more simple than that?

This solution is not feasible. The problem with trying to find a locus of Collective Intentionality in the brain is not too different from trying to find the locus of consciousness in the brain— a difficult if not impossible task in biological research. As for consciousness, the main reason we cannot find the neuronal cause is because we are not exactly sure what it is we are looking for.<sup>1</sup> The reason why finding Collective Intentionality in the brain is difficult is that Collective Intentionality is not a single thing. The term “Collective Intentionality” does not refer, rather it predicates a property of WE on intentional states such as perception, emotion and action. In light of this, a more fruitful task for a biological lower-level account of Collective Intentionality is to find the seat or locus of sociality in the brain and examine how this functional area operates to produce the particular social perception of We

What would the philosophical import of finding neurobiological bases of sociality be on understanding the nature of Collective Intentionality? There are two possible results: We would certainly find that the capacity for acting, perceiving or experiencing collectively is biologically innate. That is, given any of the characterizations of Collective Intentionality, we would discover that they are only made possible by certain brain mechanisms. This result is already in the stages of being achieved by neuroscience.

But a stronger result would show higher level cognitive states produced by the neurobiological mechanism for sociality to be irreducibly social and that the perception of We is enabled by this social mechanism. That is, the capacity to be social would be understood as the capacity to perceive by means of irreducible social perceptions,—a particular kind of perception that is altered if the feature of sociality is extracted.

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<sup>1</sup> Extinguishing consciousness is not a difficult thing to do, e.g., anesthesia, head traumas, extinguish consciousness. But understanding why consciousness is extinguished, i.e., why anesthesia works, or exactly why a blow to the head knocks out consciousness is another question.

This stronger result is also within the purview of current neurobiological research. In fact, in virtue of current neuropsychological research, it is the future of neurosciences. Brains, human brains in particular, but other species brains in general, can now be classified as a special type in virtue of neurobiological makeup. These brains can be classified as social.

Neuroscience has already provided plenty of data to argue for the first result—that social behavior is innate. In previous papers, I have argued the stronger result, that social perception is primitive and irreducible. In this paper, I will argue that Collective Intentionality exists in virtue of social perception, and as such is both logically irreducible and biologically irreducible.

## **II. What makes the social, *social*?**

Social species can do many of the following or all of the following as a group: they interact; they move together, they coordinate their actions towards a common goal (this is definitive of collective intentionality); they focus their attention on a common object as in joint perception; they share things such as food and grooming, and when they are particularly sophisticated, they build things together and pass on knowledge to each other. This is called enculturation. But another feature that distinguishes social species from non-social species is that the members of social species can act on behalf of another. Sometimes this act does not benefit the actors or fulfill their personal goals. Sometimes this act even endangers their own welfare. This capacity to act primarily on behalf of the others, i.e., the capacity for altruism, is only seen in social species: it is unmistakably a mark of the social. Non-social species and pathological members of social species cannot perform altruistic acts.

As an illustration of altruistic action as a mark of the social, consider the acts in the following scenarios:

1. During filming of a television episode of *Lassie*, a circus lion wandered onto the set cornering two little boys. *Lassie*, a Collie dog and no match for a lion, put herself between the boys and the lion allowing the little boys to escape.

3. On January 2, 2007, Wesley Autrey was waiting for the local subway at 137th Street and Broadway in Upper Manhattan when a stranger next to him collapsed in an apparent seizure. Mr. Autrey and two women rushed to help and the man, Cameron Hollopeter, and this man managed to get up but then stumbled and fell over

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the platform onto the tracks between two rails. The No.1 train was coming towards him. Mr. Autrey leapt onto the tracks and lay on My Hollopeter, pressing him down as the train ran over them both. Five cars rolled overhead and then the train stopped. Both Mr. Autrey and Mr. Hollopeter emerged unhurt. When asked why he acted the way he did, Mr. Autrey said, “ I did what I felt was right.”<sup>2</sup>

In these scenarios, the agents in question act against their own self-interest for the benefit of another: Lassie and Mr. Autrey could easily have died. What made them act this apparently irrational way? The best interpretation is that these agents acted unselfishly. But this fact is actually unimportant for the point at hand. We can allow both agents to be ultimately self-serving, for example, we could imagine that Lassie sensed he would get a treat if he saved the little boys lives, and Mr. Autrey considered the possibility of future fame and fortune. It doesn't matter what the reason is or whether there even was a reason prompting these actions because in the final analysis, these acts share one undeniable feature of being social. Neither could have been performed without more than more person, and more importantly, neither could have been performed without the capacity for social behavior.

Such altruistic behavior is widespread over less extraordinary and more daily examples. Even in the absence of another person—an “Other”—people regularly behave in the public interest or in the interest of an Other. For example, a person who disposes of litter in a public garbage receptacle instead of littering is acting on the behalf of an invisible Other—in this case, the public. The wife who makes dinner every night for her family, or the friend who keeps her promises, etc., are both examples in which the behavior is on the behalf of, or in virtue of an Other. And again, to repeat, whatever the motivation might be for these acts, the fact of the matter is that they are social. If we subtract the capacity for sociality, these acts would either not be possible, as in the case of promise keeping, or they would not be the acts that we just described, as in the case of disposing litter in a garbage receptacle: an asocial individual who uses a garbage receptacle is not complying with convention. He may, for example, find the garbage receptacle a convenient place to store his candy wrappers, but he is not acting under the aspect of satisfying some convention.<sup>3</sup> The case in point is that altruistic

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<sup>2</sup> New York Times, January 3, 2007

<sup>3</sup> A case in point, an asocial individual by birth could not acquire the social convention of using a litter

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behavior requires the capacity for sociality. Without it, acting with others, for others is not a possibility.

Sociality is constituted by a two-pronged capacity: 1) the capacity to identify with others, i.e., *social identification* and 2) the capacity to form social bonds, i.e., *social bonding*. To characterize social identification in simple terms, it is that abstract capacity which allows us to perceive ourselves in others. Quite unconsciously, we identify with others all the time from our simple daily interactions with people we know to those masses of strangers on an airplane. It is a constant activity of our perceptual system to find friends among individuals and ally ourselves with them, i.e. form a group, even if that group is only temporary as on a plane ride. As social beings, we simply cannot help doing this. This particular perceptual experience of seeing oneself in others as a larger Self is the core of the cognitive state of Collective Intentionality. This is the first person plural subjective experience of We.

If social identification is the perception of self in others, social bonding is the emotional counterpart of identification with others' motivational sets. In this way, social bonding motivates an individual to act on behalf of another (be that 2 or 200) because it is in the interest of his or her larger sense of self. A soldier who endangers his own life for the sake of his country can do so rationally because the country is part of his self-identity: preserving his country is preserving a larger sense of himself. Lassie and Wesley Autrey both had these experiences of social identification at the moment they performed their heroic acts. The larger Self with which Lassie identified—the set to which she belonged at the moment of her act was that which contained the little boys—her pack. For Wesley Autrey, his set was the set of humanity. He was compelled to save the life of a stranger,(and from his interview “compel” is the right word to describe his feelings at the time), because the stranger was a member of his set—the set of all humans—and that life on the train tracks could just as well be his

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can. If that individual happened to use a litter receptacle, it would be out of personal convenience. An individual who lost social capacities later in life but had learned social conventions beforehand, could use the litter can out of habit but in that case, it is still not under the aspect of convention which prompts the use of the litter can, but motor habit. (c.f., Damasio, H. (2005) “Disorders of Social Conduct Following Damage to Prefrontal Cortices,” in *Neurobiology of Human Values*, Berlin: Springer-Verlag, pp. 37-46.

own. In both cases, the dog act and the human act, social identification coupled with social bonding were in operation.

It seems natural then to assume that social identification and social bonding are essential to extreme forms of social behavior such as self-sacrifice as well as to less extreme forms of social behavior such as acting on an Other's behalf. In this light, altruistic behavior is not only an effect of being social, it becomes rational: When an individual performs altruistic acts, he may act against his own individual self-interest but in any case, he acts in the self-interest of his larger Self, a set with which he identifies and whose interest he shares. This characterization does not make altruism any less admirable, it makes it comprehensible.

Social identification and social bonding are the constitutive elements of the experience of collectivity and this collective first person-plural experience is the basis for the state of Collective Intentionality. There is an interesting argument as to why social identification and social bonding are the constitutive features of Collective Intentionality and why the other features listed earlier, i.e., coordination of behavior, collective goal, commitment, and joint perception are subsidiary features. All of these latter phenomena can occur yet not add up to Collective Intentionality.<sup>4</sup> For example, from a third-person point of view, ants coordinate their behavior and they share a collective goal. Similarly domestic cats who are not strongly social (though they do have some social features) can be said to exhibit from a third person perspective a behavioral form of commitment to each other. It is not at all unusual to see cats approach and attend an object to which other cats are attending, e.g., a toy, or a mouse—to all appearances they share joint attention. But in both the ant and cat case we are hesitant to say that they have Collective Intentionality. This is because Collective Intentionality is a first-person plural subjective phenomenon—a We-perception whereas mere coordination of behavior is not necessarily a subjective phenomenon. Coordination, attending to the same object, and commitment to a common goal are all functions of Collective Intentionality if they involve the particular kind of perspective that is required for Collective Intentionality—an experience of being part of a plural subject.

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<sup>4</sup> This is Searle's point behind the Park People and Harvard Business Graduates examples. cf. Searle, J.R. (2002) "Collective Intentions in Action," in *Consciousness and Language*, Cambridge: Cambridge University Press, pp.92-94.

### III. What makes brains social?

If sociality requires social identification and social bonding, what sort of brain produces these features? There are several ways to go about finding functional areas in the brain for social behavior. One way to do this is by examining the neuro-anatomies of various social species with those of non-social species and compare their commonalities. Another way is to examine the brains of social species that produce asocial or anti-social behavior and compare them to non-pathological brains in order to discover see what is not functioning or what is missing. This latter option involves studying neural pathologies and pathological behavior. It is a focal method of current research in neuropsychiatry, neuropsychology and neurophilosophy (in the sense that I intend this term: as developing the conceptual foundations of higher level brain states in terms of lower level neural states).

From both methods of studying the brain, neuroscience has discovered that there is one area of the brain that drives human behavior, that allows us to be human as we understand it pre-theoretically. This area is the prefrontal cortex. Without a prefrontal cortex an individual could react to external stimuli through various senses—e.g., vision, audition, tactition. He could have a sense of smell and perhaps even negotiate his way successfully around obstacles but he would not be able to make decisions, move voluntarily, understand rules and measurement, think about the future nor understand the past. An individual missing a prefrontal cortex would not hear music or speak a language. All of this kind of higher cognitive activity is what distinguishes your experience from that of, for example, a cuttlefish or to some degree, that of a cat.

The prefrontal cortex is functionally divided into three major areas. Two of these areas have been the focus of neuropsychological research for the past five to ten years. These two are the Ventral Medial Prefrontal Cortex (VMPFC) and the Dorsal Lateral Prefrontal Cortex (DLPFC). The VMPFC and the DLPFC have contrasting functions in our lives: The VMPFC appears to be responsible for understanding consequences of one's own decisions in terms of how similar decisions resulted in good things and bad things, "rewards" and "punishments" as they are called in psychology<sup>5</sup> and the

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<sup>5</sup> The terms "rewards" and "punishments" imply social relations but the primitive functions of the VMPFC do not necessarily require social relations.

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ability to act intuitively based on associations of the present with past experiences. The DLPFC on the other hand appears to be responsible for allowing us to grasp measurement, rules, solve problems “on-line” so to speak, without any thought of past associations or possible future consequences. Above all, the VMPFC appears to be strictly personal. It appears to house the emotional memories—good and bad—of one’s past action; it is entirely self-based. The DLPFC, on the other, hand appears to be strictly impersonal.<sup>6</sup> It is the area that allows you to be an impartial observer—a logical, rational individual, to be able to assess the situation at hand and understand how to resolve perceptual conflicts that you might detect.<sup>7</sup>

The third functional area of the prefrontal cortex has had less focused attention. This area is the Orbital Frontal Cortex (OFC). It is located close to the older part of the brain, the limbic system—the locus of emotions, and right next to the olfactory bulb—the area of olfaction, an area of increasing interest for its role in social behavior. The most interesting fact about the OFC is that if an individual suffers damage to the OFC but the rest of his prefrontal cortex remains intact (that of the VMPFC and the DLPFC), this individual can maintain all those experiences listed above that make life enjoyable in that specifically human way. But what the individual would lose is that very capacity Aristotle thought was most distinctive of being human—he would lose the capacity for being social. Such an individual while maintaining normal intellect would display asocial behavior and even antisocial behavior. The classic example of this phenomenon is Phineas Gage, the 19th century railroad worker who while setting dynamite, suffered a metal rod through what appears to be his OFC and VMPFC. Before the accident, Phineas Gage was an upstanding member of his community. After the accident, Phineas Gage was a different person. He used foul language. He was impatient and focused on satisfying immediate desires. He lacked foresight. He was always inventing schemes he never fulfilled and he could not hold his job any longer. In short, Phineas Gage no longer knew how to be social.

While neuroscience recognizes that the OFC has importance in social functioning,

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<sup>6</sup> I owe the terms “personal” and “impersonal” to Maya Kronfeld.

<sup>7</sup> Science fiction has made interesting characters out of this cognitive divide of emotive-intuitive and logical-rational. In the Star Trek series (1966-69 and 1987-1994), Data and Spock perfectly exemplified creatures who operate solely with a DLPFC-like brain.

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what that function is, is not as conceptually shaped as those functions of the VMPFC and DLPFC. What data show is that damage to the OFC produces antisocial behavior in the form of loss of inhibition in various forms. A dysfunctional OFC can produce bouts of anger and elation and impulsive actions without regard for future consequences. It can produce individuals who are incapable of learning social convention, or if they have learned social convention in the past, applying those learned social conventions to their own behavior. Damage to the OFC clearly affects social functioning. The question is, How does it do this?

Providing a theory as to the role the OFC plays in social behavior would also in turn reveal the function of the OFC. It is at this point that a conceptual theory of sociality will enable a characterization of the underlying neural function for sociality, in this case, the OFC. As we noted earlier, a mark of the social is altruistic behaviorism, and as I have argued in this paper, the capacity for altruism is enabled by the perceptions of social identification and social bonding. And as I have further argued, social identification and social bonding allow acts that from a third person perspective appear irrational—they appear to be counter to the interests of the actor. But from the first-person perspective of an actor who has the experience of We-intentionality, these acts are not irrational since the actor has expanded his sense of Self to a larger group. Thus, the altruism that is enabled by sociality is redefined as self-regarding because as we have stated so many times, in social acts the actor is capable of expanding his sense of self to include an Other.

If the OFC does have social function, and there is enough evidence to support this idea, and if it is the seat of sociality, and there is evidence to support this idea, then we can infer that the OFC functions to allow an individual social identification and social bonding. It makes the higher level cognitive state of Collective Intentionality possible. By the lights of this proposal, damage to the OFC would result in the loss of the capacity for social identification and social bonding, the constitutive features of Collective Intentionality. Individuals with dysfunctional OFC's would lack the capacity to recognize themselves in Others. In fact, in extreme cases in which the OFC is totally lacking, they would lack any form of social recognition.

How would a specific social function in the brain work along with the other higher-level cognitive functions in the prefrontal cortex, the VMPFC and the DLPFC?

It is clear from data that the VMPFC and DLPFC function together in normal

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individuals. They balance each others functions: the intuitive-emotive VMPFC softens the rational-logical functions of the DLPFC, and vice versa, the DLPFC lends rationality to the emotive-intuitive side of our personalities. Pathological evidence confirms this. Individuals who suffer damage to the VMPFC and operate only by means of the DLPFC tend to be short-sighted because they cannot access past associations, so they cannot act with an eye to future consequences. Similarly, DLPFC patients—those who have damaged DLPFC—among other difficulties, display an inability to operate in real time to novel situations. They ruminate and get stuck in their ruminations ending up making bad decisions because they cannot resolve momentary problems as they present themselves. Thus, it is clear that these two functional areas influence each other. It would seem logical to assume that the OFC influences these two areas.

Earlier I stated that the term “Collective Intentionality” does not refer, rather it predicates. As a predicating expression, Collective Intentionality predicates the property of sociality on intentional states, be they perception, action, beliefs, desires, any intentional state that is capable of a social aspect. And to pin down this property of sociality exactly, it is the plural self—the We—that is predicated of the state in question. In the same way the OFC which enables sociality, operates over the VMPFC and DLPFC to add sociality to their functions. Thus, if the function of the VMPFC is that of enabling associations of the present with past in order to understand future consequences, the OFC operating over the VMPFC would allow a kind of collective or social memory of the past in order to understand potential future consequences. Similarly, if the function of the DLPFC is that of enabling resolution of a momentary perceptual tension by applying rules, algorithms, measure, or pre-conventionally, merely acting appropriately as in dodging traffic on the freeway, then the OFC would enable the DLPFC to understand collective and social conventions, social measurement as in the comprehension of fairness.

There is data to corroborate that the OFC functions in the manner that our conceptual theory has claimed for sociality. I have discussed the data in detail elsewhere<sup>8</sup> but briefly, there is the striking fact that asocial and antisocial behavior arises when

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<sup>8</sup> Hudin, J (2008) “The Neurophilosophy of Social Decisions” talk delivered to Institute of Cognitive and Brain Sciences, University of California, Berkeley, March 7, 2008.

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the OFC dysfunctions, yet normal intelligence remains intact. Further, there are several puzzles that arise in pathologies of the VMPFC and the DLPFC which are less puzzling in light of the function of the OFC. A sample of these are the following:

VMPFC patients (those individuals who have suffered damage to the VMPFC) are generally socially dysfunctional, but interestingly, they differ in their dysfunctions depending on whether they incurred VMPFC damage early or later in their life. Those who incurred VMPFC damage later in life have a kind of social memory in that they understand social consequences when conventions are flouted, yet they still flout them. On the other hand, those individuals with early-onset VMPFC damage have no social memory and cannot understand social consequences, i.e, they simply cannot learn social conventions, so they cannot intentionally flout them.<sup>9</sup>

DLPFC patients (those individuals who have suffered damage to the DLPFC) have among other cognitive difficulties, an inability to grasp social measurement as in understanding what is just or fair.

In the VMPFC cases above, the OFC theory proposed in this paper explains the individuals with social memory as a matter of having fully functioning VMPFC-OFC connection before incurring injuries, allowing them to understand social consequences and social conventions. On the other hand, those VMPFC patients with early onset damage never had the healthy connection between the OFC and the VMPFC which is required for learning social consequences and therefore cannot even understand the notion of social convention. In both cases, they both now display socially aberrant behavior.

The OFC theory in this paper explains the DLPFC case as a case of an individual losing the capacity for social measurement because his DLPFC is not functioning along with the OFC. It is good to keep in mind that if the OFC is dysfunctional, a fully functioning DLPFC would not produce the capacity for social measurement on its own.<sup>10</sup>

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<sup>9</sup> Damasio, H., (2005)

<sup>10</sup> A team of Swiss scientists used TMS to temporarily disrupt the right DLPFC of a group of volunteers and then had them play the Ultimatum Game. Volunteers with the disrupted DLPFC were unable to determine a fair reward and accepted unfair settlements. c.f., Sanfey, A., Rilling, J., Aronson, J., Nystrom, L., Cohen, J., "The Neural Basis of Economic Decision Making in the Ultimatum Game," in *Science* 13, June, 2003, Vol. 300, no.5626.

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These are just two examples in which a disconnect between the OFC and the other two functional areas of the prefrontal cortex results in the lack of social intentionality. But there is one more extraordinary example of asocial behavior which is noteworthy because it shows that the OFC operates not only over the prefrontal cortex, but adds sociality to the limbic system—the area of the brain that allows us to love, fear, have emotions in general. This is the case of Williams’s Syndrome a genetic disorder in which individuals have no fear of strangers. Rather, they trust them, talk openly with people and cannot understand social cues which indicate a conversation has ended (i.e., a person looking at his watch).

The theory of sociality and the function of the OFC proposed in this paper would predict that these individuals not only recognize other conspecifics (unlike autistic individuals), but identify with any and all conspecifics. They have sociality in abundance. But they do not have social fear, a necessary social emotion for social convention and social existence in general. They have no means of distinguishing themselves from others, or making the friend-enemy distinction because they identify with everyone they meet.

The area of the brain that allows us to fear is the limbic system, specifically the amygdala, and this theory would predict that the OFC and the amygdala are not functioning together to produce social fear. In fact, the recent data of Karen Berman’s research group at NIMH corroborates this theory: Williams’s individuals have a “dead connection”<sup>11</sup> between the OFC and the amygdala when viewing pictures of threatening faces, a connection which is active for normal individuals.<sup>12</sup>

There is growing neurobiological and neuropsychological evidence that the OFC is

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<sup>11</sup> Dobb, D., “The Gregarious Brain,” New York Times, July 5, 2007

<sup>12</sup> Interestingly though, the connection between the OFC-amygdala is normal when Williams’ individuals view non-social threatening pictures of “snakes, sharks or car crashes.” (ibid.) This fact emphasizes the social aspect of the OFC as the OFC’s *primary function* and its inhibitory effect, the feature traditionally associated with the OFC, as a *secondary function*. The perceptual system distinguishes different types of objects, animate, faces, and this occurs in parts of the brain other than the prefrontal cortex. The primary job though of the OFC is to confer social recognition on the perceptual event of a face, and inhibition secondarily on a potential action. And this is the case in Williams’ syndrome: the OFC allows for unconstrained social recognition, and is socially uninhibited, but functions secondarily to inhibit action in non-social situations.

the seat of sociality, and that the neurophilosophical theory of sociality is correct. If nothing else, in our species alone, the neuropathologies confirm it.

#### **IV Summary**

This paper proposes a simple theory as to how species are social: they are social because they have a social brain. Sociality includes all forms of social behavior, perception, emotions, and is a product of a select neural function that allows for social identification and the emotional equivalent, social bonding. This capacity for social identification is our ability to have social perception. Without this select neural function, species and individuals within social species who lack social perception can function and even function with higher order cognitive capacities, but they cannot be social. In light of this, we can claim that there are two types of perceptual capacities—one that allows us perceive the world as objects and one that allows us to perceive among those objects, living beings with whom we identify. Social perception is its own kind of perceptual capacity and as such is irreducible to any other kind of perception.

Is the argument for social perception as an irreducible perception sufficient for the irreducible experience of We, the basis of all Collective Intentionality? In a trivial sense, yes. All social interaction, be it coordination of action towards a collective goal, including a negative goal such as beating up an opponent and realizing that an Other is an enemy, or even an isolated social act such as depositing litter in a garbage can while no one is watching, involves being in the presence of an Other, being part of a larger set. So, any perceptual state which includes an Other is at some level of consciousness a state involving a sense of being part of something bigger than yourself. This experience has to be the basis of Collective Intentionality.

But in a non-trivial sense, the argument for the irreducibility of social perception is not sufficient to show that Collective Intentionality is irreducible. Merely being aware of an Other is not sufficient to derive the robust sense of *We*, not merely the “We” of being accidentally part of a set because of shared properties, but the “We” that derives from being part of a set that is created intentionally as in “We are going for a walk,” “we are pushing a car,” “we are fighting,” “we are dancing,” etc. This sense of “We” requires voluntary commitment an Other, and it is the heart of Collective Intentionality. This paper has attempted to provide the necessary groundwork for a further development of Collective Intentionality in terms of social

perception as a biological feature of social species. It leaves open the question of the biological innateness of deonticity, the feature that distinguishes the “We” of accidental collectives from the “We” of Collective Intentionality.