

Book Review

Joint Attention: New Developments in Psychology, Philosophy of Mind, and Social Neuroscience

Axel Seemann
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Axel Seemann's book is an excellent collection concerning the nature, origins, and significance of joint attention. It exhibits breadth of interdisciplinary engagement, tackles central debates about the content of joint attention, and points towards future empirical and conceptual work.

While prior collections (Moore & Dunham, 1995; Eilan & colleagues, 2005) have each included discussions of the gesture of pointing, Seemann's collection raises several questions about the relevance of pointing for the nature, origins, and significance of joint attention.

In this essay, I will discuss the papers in this collection that take pointing to be relevant for joint attention. I will not provide a detailed summary or review of papers in the collection. I will begin by raising questions about the relevance of pointing for joint attention, summarize how thinkers in the collection answer some of those questions, and point towards some avenues for future research. In particular, I will suggest that we ought to investigate whether "pointing looks" are what initiates joint attention.

What is the relationship between pointing and joint attention? Can two individuals point to an object and not jointly attend to that object? Can two individuals jointly attend to an object without pointing to that object? Do the phenomena of pointing and joint attention emerge, evolve and develop at the same or different times? Are humans and non-humans both equally capable of pointing and joint attention? When do infants develop the ability for pointing and joint attention? Do the diverse distinctions involved in accounts of joint

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attention – rich / lean, cognitivist / non-cognitivist, individualist / anti-individualist, internalist / externalist, reductionist / relationalist, highlight the relevance of pointing in different ways? Can the jointness in joint attention be understood in terms of “pointing looks”?

Let’s begin to answer these questions by considering the phenomenon of joint attention in more detail. Consider two individuals, Jack and Jill preparing to engage in drawing a picture with a crayon. A blank paper lies on the table and there is a blue crayon in the center of the paper. Jack visually attends to the crayon. Jill visually attends to the crayon. At this point, both Jack and Jill are visually attending to the crayon together. However, they are not yet *jointly* attending. What is required in order for Jack and Jill to jointly attend? What role does pointing play in putting the jointness in joint attention?

One central view that is brought out in the collection is that pointing plays a role in the initiation and maintaining joint attention, although it is strictly speaking not necessary for the initiation and maintenance of joint attention. However, as I hope to show, if we theorize about Jack and Jill engaging in what might be called “pointing looks” that does enable us to make sense of the initiation and maintenance of joint attention.

Papers that discuss pointing explicitly are Racine, Leavens, Hobson & Hobson, Reddy, Carpenter & Liebal, Shepherd & Cappuccio, Hopkins & Tagliatela, Moll & Meltzoff, and Campbell. Papers by Trevarthen, Seemann, Steuber, Gallagher, Hutto, Pacherie, and Costantini & Sinigaglia do not meditate on the relevance of pointing. The reason for this may be that the latter set are mostly concerned with the nature of joint attention, rather than its initiation and maintenance. It ought to be clear and precise that in order for Jack and Jill to engage in joint attention neither need to point and even if both do point, that is not sufficient for joint attention.

However, I will say a bit about those papers that don’t discuss pointing, and illustrate how the phenomenon of pointing might be under the surface in these accounts. Trevarthen’s paper presents an outline of the development of joint attention— illustrating in great detail the trajectory from primary to secondary intersubjectivity. Trevarthen discusses a basis for intersubjectivity in what he calls “protohabitus,” which are a set of abilities for self and other to engage. While Trevarthen talks about hand gestures and in particular the kind of movement that is central for hand gestures, it is not transparent what the role of pointing is in his account. However, both in the diagram and in the description, hand gestures are

conceived as a part and parcel of the protoconversation in which infants and caregivers engage.

Stueber, Gallagher, and Hutto's papers are each concerned with the issue of what account of social cognition ought to be used in articulating joint attention. Both Gallagher and Hutto argue for enactivist accounts of joint attention. In general, there is much to be learned from enactivist accounts of joint attention; however, we ought to articulate the full range of actions that are central to joint attention, in particular pointing gestures. But, that discussion was lacking in Gallagher and Hutto's articles. Stueber argues that enactivist accounts presuppose simulation mechanisms, namely recognizing a like-me familiarity between oneself and others. The simulation account might be profitably explored in the context of pointing to determine if resonance mechanisms could explain and predict pointing recognition. Pacherie discusses the phenomenology of joint agency. A pivotal point that needs to be discussed is whether joint attention is a form of joint action, and in particular, is pointing part and parcel of that joint action set. There seems to be a phenomenology of the action of initiating and maintaining joint attention that could profitably be explored through Pacherie's model. Costantini & Sinigaglia discuss the role of objects being graspable by other subjects as a social affordance for one's grasping that object.

Moving on to those accounts that do discuss pointing explicitly, there are not many that explicitly discuss the question of whether the gesture of pointing is sufficient or necessary for joint attention. However, Carpenter & Liebel's paper discusses pointing as central for the initiation of joint attention. Carpenter & Liebel also present the most explicit account of what is required of joint attention by articulating the notion of "knowing together" that each is attending to the same thing (159). The exchange of communicative and sharing looks is what enables such knowing together. In what sense is pointing involved in knowing together through sharing looks? According to Carpenter & Liebel's account, joint attention is seen as the goal of declarative pointing and Carpenter and Liebel discuss evidence that by "twelve months of age, when (on average) infants have just begun pointing declaratively, there is much empirical evidence to support the idea that the function of infants' declarative points is to share attention and interest about objects and events with others" (164). In this sense, then pointing declaratively is an initiator of sharing looks.

Both Carpenter & Liebel and Hobson & Hobson outline as a condition for truly joint attention the idea that sharing looks are constitutive of jointness.

Hobson & Hobson's central claim is that joint engagement involves a double identifying-with through the engagement of what they call "sharing looks". A central idea that emerges from Hobson & Hobson's contribution is that the traditional distinction between imperative pointing and declarative pointing breaks down, because the pointing that is involved in the experiments they discuss involve both a receptive involvement with the world and normative involvement with the other. That is the benefit of thinking of joint attention— i.e., as a state that is purely perceptual— in terms of joint engagement— i.e., as a complex activity that involves perception, action and emotion— is that the sphere of actions of the individual widens beyond the states or processes that are theorized to explain attention as a perceptual state.

The experiments discussed in both of these papers point towards the need to articulate a category of "pointing looks" which are looks that function as or serve the role to point, but do not use a hand gesture. The reason this seems necessary is that "sharing looks" do not capture the initiation component of the jointness of Jack and Jill to the crayon; however, they do capture the recognition that Jack and Jill are sharing the visual experience of the crayon. The worry is that there might be assumptions about pointing being strictly based in human hand gestures that are merely assumptions. That sort of point is a common thread in the collection, namely the assumption that only human adults point.

Leavens' contribution to the volume presents an attack on the twelve myths about joint attention. The upshot of the account presented is that we are biased towards adult humans in our discussion of joint attention. Leavens argues that "every component of joint attention that has been displayed by human infants has also be displayed by representatives of the great apes" (44). The thrust of his contribution is that we ought to remain conservative about the kinds of claims we make about what's innate and what's acquired, what's human and what's non-human, what's cognitive and what's non-cognitive about pointing and joint attention. In particular, when we consider the development of pointing and joint attention, since both apes and humans learn to point and to jointly attend in human environments, the claim about what's nature and what's nurture with respect to these phenomena is difficult to make explicit.

Hopkins & Tagliatela present a similar claim about mythically restricting a variety of kinds of pointing to human primates. In particular, they argue that chimpanzees and other great apes do point referentially, initiate and engage in joint attention. They suggest that data on the neural correlates of gaze

following and pointing in chimpanzees ought to be used in understanding the neural basis of joint attention in humans. Similar to Leavens' point, the tendency to deny this is a result of assuming that humans and apes are different in the acquisition of pointing and joint attention.

Shepherd & Cappuccio's paper is most relevant to the question being raised in this essay. They give a detailed account of gaze following capacities in primates and humans and its relevance for joint attention. But, more to the issue, they discuss the role and significance of pointing behaviors for an understanding of joint attention. Shepherd & Cappuccio discuss the need for joint attention to be mutually manifest against a common ground: "a shared context defined by the personal and cultural background of the individuals involved" (225). Deictic gesture plays an important role against the background of human personal and cultural situation. However, they point towards the idea that there are "deictic gaze behaviors" in humans and non-humans that serves as a ground for more robust forms of pointing. One question would be whether the phenomenon of "pointing looks" I have discussed and the phenomenon of "deictic gaze behaviors" are the same or different. According to this account, then the emergence, evolution and development of manual pointing gestures depend importantly upon deictic gestures in general, where gazing and pointing are special cases of these.

Moll & Meltzoff and Campbell both outline how joint attention plays a role in the development of perspective taking. In the studies they discuss, infants grasp what objects are new for an adult and what objects are familiar only when they have shared experiences of those objects. If they have merely observed the adult look at the object, then the infants cannot make the distinction between new and familiar objects. Moll & Meltzoff argue that so far research has merely focused on taking perspectives, and taking perspectives alone cannot account for the difference that joint attention makes to the development of an understanding of perspectives. However, much can be gained through reconceiving the data in terms of infants "confronting perspectives". Through sharing a perspective with the adult, the infant is capable of taking the perspective of the adult; however, it is an additional step to confront two different perspectives.

Campbell outlines an argument for the significance of joint attention for perspective-taking. According to Campbell, this provides us a new way of thinking about the problem of other minds. When one wonders what it's like to be a bat, one wonders what it's like to take the perspective of a bat.

However, Campbell suggests this is not a problem of imagining or projecting oneself into an other's perspective, but instead, is the difficulty of sharing experiences with the other. Campbell suggests that if we could engage in joint attention with a bat, then we could make progress in understanding a bat's perspective. According to this externalist perspective, to jointly attend requires recognition and acknowledgement of a common ground of objects. While Campbell does not discuss pointing in these terms, pointing could be conceived as raising externalist questions about the possibility of attending to some object or other, which then initiates and maintains the background assumptions that Jack and Jill operate with.

This raises the central question that this essay is concerned with. In what sense does pointing initiate and maintain joint attention? When Jack and Jill are both attending to the crayon together, what makes it the case that they begin to jointly attend to the crayon? One way to make sense of the initiation is through pointing. However, while the discussion of manual pointing may be an everyday common way that joint attention is initiated, there are several passages in the collection in which there is plausibly no manual pointing, but yet joint attention is initiated.

One way that we can make sense of that being the case is that the initiation of joint attention is not merely brought about through "sharing looks." Sharing looks allow Jack and Jill to experience the jointness of joint attention; however, sharing looks cannot be what initiates jointness. We might call it an "orientational look" that initiates joint attention. Now, the question becomes, can such an orientational look be considered pointing? It might be a profitable path for research to explore that possibility. Could there be actions that are understood as initiating attention that are too much like pointing not to be called 'pointing'?

Part of the reason that this may not have been considered in detail is that we have preserved a distinction between rich and lean views of joint attention. The rich view suggests that joint attention is individualistic, internal and cognitivist and the lean view suggests that joint attention is social external and non-cognitivist. Racine points towards the possibility that interpretations of joint attention ought to instead theorize about joint attention independent of these distinctions. Racine argues that if we adopt a rich account of joint attention, then pointing gestures are relegated to the category of behavior, while the machinery of joint attention becomes the cognitive posits that explain and predict that behavior. However, if we adopt a lean account of joint

attention, then pointing gestures become central to the account of joint attention, however, such behaviors are stripped of the significance they possess. Clearing the ground by rejecting traditional distinctions made about joint attention provides room for the centrality of pointing for joint attention, because then the gesture of pointing— declarative, imperative, interrogative, etc.— is not the expression of a state or process of attending, but is the process itself. As Racine suggests, the understanding that is involved in joint attention is “more like an ability that one shows through one’s behavior” (35).

REFERENCES

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