

On Intention Research

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Abstract

Starting in 2017, some of Leverage’s psychology researchers stumbled across unusual effects relating to the importance and power of subtle nonverbal communication. Initially, researchers began by attempting to understand and replicate some surprising effects caused by practitioners in traditions like bodywork and energy healing. Over time researchers investigated a wide range of phenomena in subtle nonverbal communication and developed an explanation for these phenomena according to which one’s expectations about what will happen (one’s intentions) in part determine what information is communicated and received nonverbally. This area of research is known as “intention research.”

Those involved in intention research report encountering phenomena that they found quite surprising and challenging to explain. Their findings led many of Leverage’s psychology researchers to conclude that nonverbal communication is at least as expressive and psychologically central as verbal communication. Unfortunately, it also led to some negative psychological and psychosomatic effects and contributed to a significant increase in social tension at Leverage prior to its dissolution in 2019.

This research report describes what intention research was, why researchers pursued it, what they discovered, and the historical antecedents for these discoveries. The piece concludes with a discussion of the risks and challenges associated with further research.

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On Intention Research

Between 2011 and 2019, researchers at Leverage Research and affiliated organizations conducted investigations into a wide range of areas in the social sciences including psychology.¹ Starting in 2017, some of Leverage’s psychology researchers stumbled across a set of unusual effects suggesting that subtle nonverbal cues offered a powerful aid for producing positive psychological change and group synchronization. This research began by observing surprising effects caused by practitioners in traditions like bodywork and energy healing, using introspective techniques to try to develop mechanistic psychological explanations for these effects, and using these explanations to replicate some of the effects themselves. Beginning in 2018, however, Leverage’s researchers developed their own lines of investigation aimed at understanding the many ways that subtle nonverbal communication affects people with the ultimate goal of harnessing these phenomena to produce beneficial psychological changes in themselves and others.² For reasons described below, I will refer to Leverage’s in-house research on this topic as “intention research.”

Those involved in intention research report encountering phenomena that they found quite surprising and challenging to explain. Their findings led many of Leverage’s psychology researchers to the conclusion that nonverbal communication is at least as expressive and psychologically central as verbal communication. In fact, some of Leverage’s researchers came to believe that some techniques that relied almost entirely on non-verbal interaction could produce powerful and beneficial psychological changes. Many researchers also came to believe that non-verbal communication could occur without the conscious awareness of either party and could nevertheless cause profoundly positive or negative psychological effects.

Intention research was—and remains—a controversial topic among Leverage’s former psychology researchers. There isn’t even unanimous agreement around what constitutes “intention research,” who was doing it, or when. For example, not everyone doing research in areas related to subtle nonverbal communication thought of the phenomena as pertaining to intention and thus may not have been doing intention research. Additionally, researchers disagree about which activities that occurred during this period can be aptly described as “research” with some indicating that the lines between research and navigating personal and interpersonal drama became sufficiently blurred over time that they became difficult to distinguish. Even among

¹ In mid-2019 the Leverage research collaboration dissolved and most of those involved in Leverage’s psychology research moved on to other projects. Leverage Research was then re-founded as an independent, non-profit research institute focusing on early stage science.

² One may be tempted to think of subtle nonverbal communication as meaning ordinary body language. However, subtle nonverbal communication is intended to be a category that includes both body language and other phenomena that are not obviously visual.

those who understand themselves to have engaged in intention research, there is widespread theoretical disagreement about the nature of the phenomena involved and their explanation.

There is substantially more agreement that something unusual occurred at Leverage while intention research was being developed. During this period there was a substantial increase in organizational discord such that coordination among researchers, including some of Leverage's senior-level leadership, broke down substantially and the Leverage research collaboration was ultimately dissolved. Researchers disagree about the causes of this breakdown although many think intention research played an important role.³ Some researchers think that intention research peered too deeply into the subconscious, discovered some mental content that was perhaps best left undiscovered, and that the resultant organizational discord came from researchers not knowing how to handle that content.⁴ Others think that mental content related to intention phenomena, especially detecting propositions nonverbally, contained unexpected content that troubled researchers and led them to question the benevolence of others including fellow researchers. Still others think that intention research was not an important cause of this discord except insofar as other researchers believed it was and that the true cause was something else. Whatever may be the case, the effect intention research had on Leverage is important for understanding the research area and the phenomena involved.

This article is intended to introduce Leverage's intention research including the phenomena researchers discovered and how those phenomena were explained. Intention research is an interesting potential avenue for understanding the effects of subtle nonverbal communication and, in turn, gaining greater insight into the mind and how people are affected by each other. However, the experience of some of Leverage's psychology researchers suggests that the area may also contain both psychological risks and epistemic challenges. Thus, in addition to providing an introduction to the area, this piece is also intended to invite a discussion of whether further research into these phenomena should occur.

Sources

This article is based mostly on conversations with at least twelve of Leverage's psychology researchers who were directly involved in this research area including Geoff Anders, Leverage's Executive Director, and researchers from each of Leverage's psychology and coordination research teams.⁵ The conversations informing this paper include informal conversations I had

³ For a discussion of other factors that may have been involved see Leverage Research, "Factors and Mistakes."

⁴ Notably, the ideas of the "subconscious" and "unconscious" were not part of Leverage's internal discourse at the time, although researchers did employ some similar concepts.

⁵ Several of those involved in Leverage's intention research have expressed the concern that public discussions which name them and connect them to this research might lead to harassment from either of two online communities with whom Leverage Research previously interacted. To mitigate this concern, I have elected to cite specific researchers only where those researchers have otherwise written about this topic publicly. (For further discussion of

between 2017 and 2019 with friends of mine who worked at Leverage, informal conversations with researchers after the Leverage research collaboration ended in June of 2019 in order to better understand the research, and more recent in-depth conversations with researchers specifically aimed at better understanding the relevant research for this piece. I also had access to some archival documents and recorded presentations that occurred in 2018 and 2019.

This draft was also circulated to some of the researchers who were directly involved for comment. Any mistakes that remain are my own.

What is intention research?

Intention research can be thought of as an early stage research program that developed inside Leverage based around evidence suggesting that:

1. There is substantially more nonverbal communication than is commonly discussed and nonverbal communication is much more expressive than commonly believed.
2. What is communicated nonverbally depends heavily on one's "intention." (See "What is an intention?," below.)
3. The effects of some nonverbal communication can be observed through introspection.

These ideas were developed as an attempt to make sense of a set of unexpected phenomena encountered by Leverage's psychology researchers and integrate these findings into a coherent picture of human nature. Below I explain the details of this research program including why it seemed promising. In the next section I outline several phenomena of interest in a theory-neutral manner to help readers understand what these researchers were trying to explain.

What is an intention?

The word "intention" commonly refers to a person's aim or plan (e.g., "she announced her intention to run for governor") or their attitude towards the effect of their actions (e.g., "he's a bit clueless, but he has good intentions").⁶

At Leverage, "intention" also gained a new technical meaning referring to a person's beliefs about what will happen, especially (a) what they believe will happen in the immediate future, and (b) what they believe they will do. Less precisely, it can be thought of as meaning "what one is meaning to do" or "what one wants to have happen."

this topic see Cathleen, "In Defense of Attempting Hard Things," especially the sections labeled "Preface," "Harms from the surrounding community," and "Conflict with some EAs and Rationalists and the role they're playing.")

⁶ *Merriam-Webster.com Dictionary*, s.v. "intention."

Notably, a person's intention may include beliefs and attitudes that are easy to recognize and endorse and beliefs and attitudes that are difficult to see or that one might not agree with if analyzed thoroughly. For example, using Kahneman's terminology, one could say that a person's intention may include content from both System 1 and System 2. Likewise, using Freud's terminology, one might say that it can include both the conscious and the subconscious. Thus, mental content like suppressed feelings of deep loneliness, isolation, or an unshakable deep faith in the goodness of humanity may also form part of a person's intention.

Some examples will help sharpen the concept. I can say of myself that my intention includes: that I will write this essay, that I will ensure that it is completed, and that I will publish it online, provided that I expect to take the actions necessary to cause those things to occur and I believe that they will, in fact, occur. An artist might intend to express how they felt when they met their significant other for their first date in an abstract painting. An academic might intend to add an additional piece of information to the established literature on this topic in a published paper, and so on.

A person's intention can be described either very generally or in high degrees of granularity. Consider, for example, a student who gets perfect grades in school. Many different intentions towards school are possible. The student could intend to "get good grades," "please the teacher," or "show how smart they are," and each intention would produce corresponding variations in how they might behave. A student who intends to "get good grades" might be quiet and studious, whereas a student who intends to "show how smart they are" might brag about their grades to their peers. We can also add additional layers to these descriptions. The student who intends to "show how smart they are" might intend to do that by making it seem like they don't try very hard so their classmates conclude that they are just naturally gifted. In this case, they might make a point of saying they didn't study or make a point of not taking notes in class to increase the effect. We can add still more detail. For example, my intention toward school may have been to make good enough grades with little enough effort that I could feel like I was smart without sticking out too much and then to display my disgust at how little freedom I had to explore what I was interested in learning by disengaging with whatever the teacher was talking about and mostly doing my own thing, but doing it quietly enough that I avoided getting in any actual trouble.

A person's intention is also importantly informed by reality, meaning that the evidence one gains can change one's intention. A basketball team down by two points with a minute left on the clock can easily intend to win the game. A basketball team down by fifty points with a minute left would find this much more difficult. They might develop a related intention like "making a valiant effort" or "refusing to go down without a fight" or "making a game out of it" or something similar. However, it is difficult to genuinely intend something when you have a wealth of knowledge and experience that suggests it is out of reach.

What suggested this research direction?

Before the shift into intention research, most of Leverage's psychology researchers focused on a different research method that relied heavily on an introspective tool for revealing mental content known as belief reporting. Most researchers found this approach to be quite promising; researchers had a corpus of shared language for describing mental features, several shared practices for conducting research and transmitting results, and there was general excitement about many lines of research. The switch from this research program into intention research was largely unanticipated.

Intention research was sufficiently promising to precipitate this shift for a few reasons:

1. Connection to Leverage's earlier psychology research
2. Potential for helping navigate introspection difficulties
3. Usage in explaining and reproducing unusual psychological phenomena

Intentions and Leverage's earlier psychology research

Initially, part of what made intention research interesting to Leverage's psychology researchers was some hypothesized connections between the intention concept and some of Leverage's preexisting ideas about how the mind works. These connections suggested that improving a person's intention towards a task might provide a faster and more straightforward way to help people fix psychological issues. In particular, a person's intention was thought to have an important role in determining how a person will behave and what kinds of things they will come to understand.

The connection between a person's intention and behavior was relatively straightforward. Researchers had previously hypothesized that a person's beliefs about how they will behave might have an important role in determining how they actually behave. Since a person's intentions include beliefs about how they will behave, a natural extension of this hypothesis is that a person's intentions have an important role in determining their behavior.

The connection to what kinds of things a person will come to understand is more complicated. What is relevant for our purposes is that a person's intention was thought to determine something about how their attention operated, which, in turn, was thought to determine what kinds of things one will come to understand. One way to think about this connection is that a person's intention was thought to serve as a lens through which their attention operated. Consider, for example, the difference between intending to win a chess game versus intending not to lose. A person who intends to win might, for example, naturally notice ways to checkmate their opponent, whereas a person who intends not to lose might notice all the ways they can be checkmated. This meant

that one's intention determined what information was available to them for updating and, in turn, what kind of changes of belief they were likely to undergo.

Over time, some of Leverage's psychology researchers believed it might be possible to change a person's intention and improve their ability to succeed without fixing the individual erroneous beliefs that were hindering them. As a result, researchers began working on how to determine what a person's intention was and how to cause the person's intention to change. This naturally led to intention research.

Intention research and introspection difficulties

Before intention research became the dominant focus of Leverage's psychology research, researchers focused on using belief reports to elicit mental content and then organizing that content through a methodology known as charting. Past research using these tools had established that interventions done on the basis of properly charted belief reports could yield interesting and beneficial psychological effects as demonstrated by the reported usefulness of the process by participants, post-intervention changes in behavior, and other signs of psychological change that sometimes occurred.

In some cases, researchers found that participants exhibited unusual behaviors when interacting with particular belief structures despite responding normally when interacting with other areas. These unusual behaviors tended to involve the person avoiding or being unable to introspect on a topic despite their explicit endorsement. Some specific examples of avoidance include:

- Suddenly changing the topic of conversation;
- Becoming unable to remember questions they were asked seconds prior;
- Generating spurious content on specific topics; and
- Suddenly falling asleep during discussions, but only when discussing specific topics.

These cases of introspective difficulty seemed to pose a problem for Leverage's research program since it suggested that there might be a limit to the content accessible via introspection. The attempt to develop a safe way around this issue was one pathway that led to intention research.

Explaining and reproducing unusual psychological phenomena

Prior to developing their interest in intention phenomena, Leverage's psychology researchers encountered practitioners in bodywork who appeared to be able to produce substantial psychological changes through light, stationary physical touch alone (as indicated by physical manifestations like twitching and crying or through comparing introspective reports before and after). They also encountered practitioners in energy healing who could produce similar effects through physical gestures alone.

Most of the contact with bodywork and energy healing practitioners was a result of the persistent interest in the topic by one of Leverage Research's donors. In 2015, most of the Leverage team went to the donor's house for a demonstration of energy work where the primary practitioner was able to produce notable psychological effects in multiple participants. Some of Leverage's psychology researchers tried to replicate the effects later with partial success; mundane explanations were given and researchers' attention then moved on to other topics.

In 2017, the Leverage team encountered a bodywork practitioner who seemed to be able to track a person's patterns of attention via stationary physical touch. Some researchers tried to replicate this as well, with some seeming success. Later that year, some of Leverage's psychology researchers began studying energy healing methods more closely at retreats organized by the earlier practitioner, both for the sake of self-development and to learn how the methods worked.

One of the models that arose of the efficacy of bodywork and energy work included positing that people's attentions often track each other (i.e., what one person is paying attention to sometimes affects what people they are interacting with pay attention to) and that modifying one's intention can lead to changes in the pattern of one's attention. The idea that attentional patterns could respond to one another and were impacted by people's intentions would then play a role in intention research, which began soon after.

Intention phenomena

For the most part, Leverage's intention research was driven by the unexpected discovery of an unusual set of phenomena and then the attempt to explain how these phenomena worked. This section will aim to provide a clearer description of some of these phenomena and why they were interesting to explain.

Marvelous things heard

While research was ongoing, intention research contained a large number of what one researcher described as "marvelous things heard,"⁷ namely claims of unusual effects, abilities, or occurrences. This is partially because many of the effects that were well-established among researchers were quite surprising and partially because the research topic was still new and poorly understood.

Most of these kinds of claims are not covered by the descriptions here. I have instead tried to narrow down the phenomena to those that had a substantial impact on the perspectives of Leverage's psychology researchers. The phenomena I describe tend to be those that were

⁷ The phrase "marvelous things heard" is a reference to a minor treatise of the same name which is sometimes attributed to Aristotle (see Aristotle, "On Marvellous Things Heard," 235–325).

described by multiple researchers at Leverage, and especially those described or otherwise validated by the more senior researchers at Leverage.

Vibe reads

A vibe read is an attempt to take the distinctive feeling or quality that a person, place, or thing has and put it into words particularly by describing one's gestalt of the thing beyond the immediately observable facts about it.

The concept of a vibe is, of course, not unique to Leverage. Colloquially, the term is used to mean "a distinctive emotional atmosphere; sensed intuitively"⁸ and Leverage's usage of the term was similar. The idea of people, places, or things having vibes which individuals can agree on is relatively common in everyday experience. One can think of vibe reads as related to experiences like the following:

- The experience of getting a distinct impression that is hard to justify explicitly, e.g., that someone is untrustworthy or wise.
- The experience of being able to sync up with others about one's hard-to-justify impressions, e.g., whether a person is "nice" or "creepy," whether the interior design of a room is "homey" or "quaint," and so on.

One important difference between these experiences and Leverage's "vibe reads" relates to depth. In some cases, researchers tried paying very close attention to their distinct impressions to see whether it offered more depth than simple impressions like "untrustworthy" or "wise." This led to very detailed vibe reads. An example of a detailed vibe read might be: "Tom thinks he's cooler than everyone else and he wants the people he hangs out with to be cooler than they are, but he can't really explain how to be cool or what they should be doing, so he's going to just do the cool activity near everyone else, and hope they pick it up" whereas a simple vibe read might just be "Tom thinks he's cooler than everyone else."⁹ For another example, consider Sartre's description of the waiter in *Being and Nothingness*: "All his behavior seems to us a game. He applies himself to chaining his movements as if they were mechanisms, the one regulating the other; his gestures and even his voice seem to be mechanisms; . . . He is playing, he is amusing himself. But what is he playing? We need not watch long before we can explain it: he is playing at being a waiter in a cafe."¹⁰ However, statements like "Tom is popular" or "the waiter is well-dressed" are not vibe reads in the sense that they focus on observables and not an overall sense of Tom. At Leverage, vibe reads were understood to be a powerful, but fallible tool for gaining conscious access to one's implicit beliefs about people or groups.

⁸ *Urban Dictionary*, s.v. "vibe."

⁹ Here and elsewhere throughout this section, specific names do not refer to any real persons.

¹⁰ Sartre, *Being and Nothingness*, 59.

Discussion of vibes and vibe reads became a part of Leverage's culture around 2017 when some researchers noticed a surprising degree of overlap between the results of people trying to articulate so-called "social facts"; this led to a broader search and researchers identifying a surprising degree of overlap on in the category of vibe reads more generally. For example, researchers frequently gave either similar or at least compatible vibe reads for the same person or group, and researchers were able to agree on whether a specific vibe read felt correct or incorrect. This suggested that the feeling or sense articulated in a vibe read was shared by others and not purely idiosyncratic.

One crucial question about vibe reads was the degree to which a person or group's vibe corresponded to the facts about them or not. Sometimes the vibe failed to accord with reality. For instance, in one case, two people articulated what other people thought of their relationship and agreed that the group's "vibe" included the statement "the two of them don't meet anymore"—even though they met regularly and were in a meeting at that time. Discrepancies between vibes and reality were common.

In other cases, the vibe seemed to correspond to some fact about the person. For example, researchers sometimes did an activity in which people attempted to use a vibe read to identify something that someone else in the group would be unable to do (but that most people can), and then that person would attempt to do it. For example, one researcher might articulate something like "Taylor can't be irrationally angry" or "Sophia can't be confused about what is going on." Then Taylor or Sophia would try to act as though they were irrationally angry or confused about what was going on. It turned out that people often found it exceedingly difficult to do the articulated activity and that trying often yielded amusing results.

While many people could participate in the "vibe reading" activity without substantial training, it was believed that individuals could improve the detail and accuracy of their reads, and the reads of skilled practitioners were generally presumed to often, though fallibly, correspond to something important. From the point of view of intention research, vibe reads suggested to Leverage's researchers that people possess a surprisingly large amount of implicit information about people, places, and things, that this information can be rendered explicit if one engages their mind in specific ways, and that this information overlaps to a surprising degree from person to person.

Synchronized expectations

Synchronized expectations is a phenomenon where parties to an interaction find that their expectations about what will happen in the interaction and corresponding plans for how they will behave (i.e., their intention for the conversation) appear to be responding to the expectations and plans of others to a high degree. The following hypothetical vignette illustrates the phenomenon:

Ava and Blaine try to argue less

Ava and Blaine are discussing a potential project to work on, and they notice that they seem to be inclined to argue with each other much more than usual. They decide to investigate why by introspecting on their expectations for the interaction. Ava introspects and reports that she feels on edge because she thinks Blaine is not planning to really listen to her ideas. Blaine notices that he is not planning to listen to Ava's idea, but only because he is concerned that her idea won't turn into a concrete plan, and he thinks concrete plans are important. Ava notices that she is planning to obfuscate her idea so that it isn't clear enough for Blaine to turn it into a concrete plan because she thinks that if Blaine does turn it into a concrete plan, he will think that it's too idealistic to work in practice. Blaine notices that he does expect her plan to be too idealistic (even though he hasn't heard it yet) because it seems like Ava is not trying to make sure her plan is sufficiently grounded in reality. Blaine and Ava continue to identify reasons for their expectations and find that their expectations and beliefs appear to be synced with or reacting to each other in a way that goes many levels deep without an obvious end.

This kind of synchronization of expectations was observed on multiple occasions. Investigations into the nature of this phenomenon suggested that people “synced up” quickly. In some cases, researchers found that expectations for the interaction appeared to be synchronized almost immediately, even in cases where the circumstance was novel to both parties. Additionally, the expectations people had about each other frequently seemed to reference actual attitudes or views that the other person had. For example, one person might say, “I’m only cutting you off because otherwise, you will never stop talking.” Then the other person would try to introspect or belief report on whether they planned to never stop talking, and to their surprise, they would find that this was essentially correct.

The core effect of synchronized expectations is also present in everyday experience, albeit without the depth and detail of the phenomenon as Leverage understood it. This is perhaps easiest to see with emotional states. For example, if I interact with someone who is excited or sad, I might find that my emotional state changes. Sometimes, this will match their emotional state, for example, by becoming excited when a friend of mine is excited or sad when they are sad. Other times, this might involve adopting a different but compatible state by, for example, becoming nervous if a friend is excited or sympathetic if a friend is sad. A different kind of example is the experience of entering an interaction and immediately having the sense that the interaction is going to go well or poorly without any obvious justification.

This pattern of synced expectations also became an intervention point that could sometimes be used to improve interactions. In Ava and Blaine's case, for example, Blaine might notice on reflection that it is not that important that the conversation results in a concrete plan, and so it is okay if Ava's plan is idealistic. Following the logic of the expectations, this could, in turn, mean that Ava no longer needs to obfuscate her idea, which means that Blaine can listen to her and that

Ava no longer needs to feel on edge. Some of the researchers sought to learn how to notice and change their expectations for a conversation during the conversation itself (i.e., without needing to discuss expectations with others in the conversation directly) and found that this could produce some dramatic shifts in the tone of a conversation, changing unproductive conversations to productive ones very quickly after changing the relevant expectation.

Detecting attention patterns nonverbally

Around 2017, some of Leverage's psychology researchers began interacting with bodyworkers who appeared to produce significant psychological changes solely by lightly touching them (e.g., on their shoulder) and concentrating. Some of Leverage's psychology researchers decided to try to determine whether this effect was reliable and replicable and, if so, what the participants were doing with their minds during the interaction. This led to the conclusion that it was possible to learn to detect the attentional patterns of someone else solely through touch and silently paying attention to where in their body their attention was focused.

The observation that one can nonverbally detect where someone else is paying attention is not, by itself, a particularly surprising phenomenon. Some relatively common examples of this phenomenon include:

- Being able to tell when someone's attention has wandered from the current conversation even without obvious indicators like the person looking away.
- Being able to tell when people are watching or looking at you even when not looking at them

However, researchers at Leverage found that it was sometimes possible not only to state where someone's attention was focused but, in some cases, it was possible to describe somewhat elaborate attentional patterns accurately. In one case, for example, a researcher reported that the person's attention had done something like "moved from their head, down the front of their body to their waist, up to their back in a loop and paused before repeating," and the other researcher reported that this was essentially correct, as far as they could tell. In another case, someone reported determining where someone else's attention was located and tracking their attention as it moved through their body, accurately noting where they had become distracted and what parts of their body they had avoided paying attention to.

The precise limitations or reliability of the effect was difficult to track, but it was commonly understood that the effect was not perfectly reliable. For example, there appeared to be individual differences in ability to track attention in others and in ability to have one's attention tracked such that some people were able to produce the effect more reliably than others. Individuals were also susceptible to blindspots wherein a researcher would be reliably unable to track particular kinds of attention patterns or detect when the attention was placed in particular locations.

Detecting psychological content nonverbally

As research progressed, some researchers reported using nonverbal feedback mechanisms to detect more specific psychological content. For example, while working with a participant, one of Leverage’s psychology researchers noticed that when the participant gave a verbal answer to a question, they sometimes had a distinctly different impression of a nonverbal answer being given off somehow. This nonverbal content was sometimes straightforward (e.g., a yes or a no), but in other cases, it constituted complete sentences and other propositional statements.

Two of Leverage’s senior psychology researchers developed a procedure in which one researcher would follow the charting procedure and ask questions of the participant. The other researcher would then answer the questions based on what they thought the participant was giving off nonverbally. The procedure was typically performed with people the researchers were already familiar with, most commonly other members of the Leverage team, and involved a combination of visual observation of the participant's reaction and, in some cases, tactile feedback from light physical touch. This elicited content was of the sort found via the belief reporting and charting procedure and could be used to produce psychological change on issues where it had been too difficult to elicit verbal belief reports. This suggested that genuine, useful psychological content could be acquired nonverbally.

This effect was—and remains—extremely surprising to Leverage’s psychology researchers. There are, however, some more common experiences that are analogous. For example, I can sometimes guess specific details of my partner’s mental or emotional state based on a combination of familiarity with them and how they react, context, and very subtle nonverbal cues. I might, for instance, be able to determine whether they are really interested in something or just being polite with a fair degree of reliability. These more common cases do not involve the level of specificity and detail reported by some of Leverage’s psychology researchers, but they do provide some reference experiences that can help bridge the gap.

Producing psychological changes nonverbally

Research on tracking attention via touch and reading propositions nonverbally fed into the development of techniques for producing psychological changes nonverbally. Techniques went by various names, but an umbrella term frequently used was “bodywork.”

In touch-based bodywork, a researcher and participant would discuss what the participant would like to accomplish during the session. Next, the researcher would set their intention for the session and then lightly touch the participant (e.g., on the shoulder or hand) while concentrating on the relevant issue, typically without either party speaking or moving. Both participants would then sit in silence like this for some time, often for sixty to ninety minutes.

Many (but not all) participants found that this procedure could produce quite beneficial psychological effects. Both researchers and participants report experiencing vivid images, emotional content, physical sensations, or semi-immersive imagined experiences that appeared to be related to the psychological issue that the participant wished to work on or to other related issues. In some cases, these experiences gave the distinct impression of being “from” or caused by the other person in a way that differed from other psychological experiences. Among researchers, it was generally understood that some skill was involved in bodywork, and some practitioners caused more reliably significant and positive effects than others.

Some researchers reported tracking the attention of others who were performing bodywork and identifying the area of the mind or belief structures that the practitioner was interacting with. This ability was sometimes used to help psychology researchers get better at the technique, with a knowledgeable researcher observing a person’s bodywork and then providing feedback or discussing their approach afterward. By the end of Leverage 1.0 in mid-2019, bodywork was widely thought to be among the more powerful of Leverage’s psychology techniques and capable of producing targeted psychological changes even to beliefs that were otherwise hard to access or interact with.

That light physical touch can produce positive psychological experiences is, perhaps, an uncontroversial claim. For example, one can produce this effect by touching a loved one and trying to transmit love or “positive energy” to them. What makes this a surprising phenomenon instead of a mundane one is the purported specificity of the changes practitioners were able to cause. These reports raise the possibility that practitioners were able to cause changes that were substantially more targeted than ordinary experience would suggest.

Attention pointing

Attention pointing is a phenomenon in which one person appears to “point” another person (or sometimes a group of people) to some obscure object of attention non-verbally. The following hypothetical vignette illustrates the effect:

Grace shows Harper her idea

Grace and Harper are discussing a topic, but Grace is having trouble communicating it to Harper verbally. Grace and Harper are both familiar with attention pointing, so Grace tries “pointing” Harper to her idea:

Grace: “Wait, that’s not quite what I have in mind. Can I show it to you?”

Harper: “Sure.”

(Grace and Harper sit still and stare off into space.)

Grace: “It’s right here.”

Harper: “Oh, you mean this?”

Grace: "No, not that; try this."

Harper: "Oh right here?"

Grace: "Yeah, that."

Harper: "Oh, I'm getting that it's related to hiding or wanting to stay shrouded?"

Grace: "Not quite, it's kind of behind that."

Harper: "Oh, I see . . . is it that?"

Grace: "Yep."

Harper: "Okay, let me see if I can articulate that. . . . it's like . . . there's no way to find the things you're looking for, so you aren't going to look."

Grace: "Yes! That's it."

In many cases, attention pointing would subsequently yield a number of external signs of increased clarity or shared perspective among the participants, particularly that one of the participants would suddenly become able to articulate the thing held in mind. For example, Grace and Harper might subsequently behave as though they now had the same idea in mind during the subsequent conversation or as though they had come to understand each other to a substantially greater degree than before—just as happens during successful instances of normal conversation.¹¹ Many of Leverage's psychology researchers believed that the ability to do mental pointing was related to one's general sensitivity to the nonverbal communication of others and to the compatibility of the intentions of the communicators.

Notably, not everyone appeared to be capable of either producing or experiencing this effect even with instruction. Additionally, the observation that preexisting interpersonal sync and context cues were predictive of success suggests some interesting possibilities about how the purported effect might work. It is possible, for example, that mental pointing works primarily by causing participants to pay attention to information that participants have already subtly picked up (through both verbal and nonverbal communication channels) instead of working through newly transferred mental content. On the other hand, it is also possible that the process of discussing the mental content being pointed at is doing more work in communicating the content than initially appears to be the case and thus mental pointing is more of a verbal communication activity than a nonverbal one.

Psychological "objects"

Some of Leverage's psychology researchers report encountering mental content that, upon inspection, appeared to be caused by or come from someone else in some way. This content was

¹¹ Having witnessed some of Leverage's psychology researchers engage in mental pointing on a few occasions, I would describe both the conversation around the thing being mentally pointed at and the subsequent change in understanding among participants as being similar to what one would expect if one of the participants had drawn a somewhat crude picture of what they had in mind and then showed it to the other participant. The process typically involves an initial period of interpretative questions to sync up on what precisely is being represented, followed by questions about the meaning or significance of the thing being pointed at, and finally a noticeable shift in understanding and sync on the topic.

sometimes described as an “object” or as a “[Person] object” if it had indicators of being from a specific person or group (e.g., an object originating from Alice was an “Alice object”). The following vignette illustrates the phenomenon:

Emma investigates her mental fog

Emma notices that she is experiencing persistent mental fog that has no obvious physical cause and that makes it difficult for her to do her research. She decides to try introspecting on the fog to see if she can remove it. As she pays attention to it, she gets the sense that the fog is there because her research isn't going to work, but since there isn't anything better for her to work on, the fog wants her to not think too hard about whether the research will succeed. As she continues to pay attention, she gets an image of her colleague Finn and she gets the sense that the fog is related to or caused by Finn in some way even though she's never talked directly with Finn about her research. Emma tries to make the image of Finn go away but it remains and persistently occurs to her whenever she tries to pay attention to her mental fog. Emma talks to Finn in person and after some reflection, he reports that he doesn't think her research will work and that he doesn't think there's anything better for her to do although he doesn't recall purposefully doing anything that could have caused the fog to occur.

The phenomenon of psychological objects has two important components. First, psychological objects have the feeling of not being under one's control in a way that is similar in feeling to more common experiences like involuntary musical imagery (colloquially known as “earworms”) where a song or word gets stuck in one's head.¹² Second, psychological objects have a phenomenology of being not smoothly integrated with the rest of one's psychological content. This varies in terms of whether it is immediately apparent or apparent only upon inspection. In the case of Emma and Finn, for example, upon inspection, Emma's mental fog had the appearance of being from Finn instead of being a natural part of Emma's mind. Taken together, one can imagine the experience of a psychological object as being like having an unprompted, sometimes persistent inner experience that, upon inspection, appears to be from someone or something else.

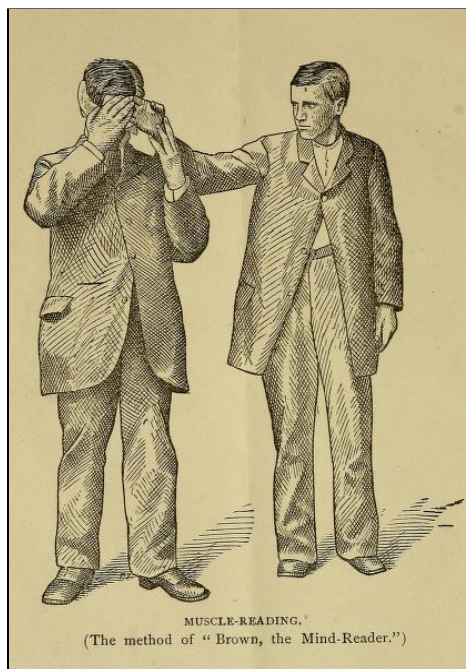
One can also think of psychological objects as an extension of relatively common social phenomena. For example, it is relatively common for people to behave differently and be in different mental states around different people. One might behave in a more childlike fashion around one's parents, be more uptight around authority figures, or become more vulnerable around a significant other. Psychological objects can be thought of as operating on a similar mechanism of influence albeit without the source of the object being physically present.¹³

¹² An introduction to the phenomenon of earworms is available in Beaman, “The Literary and Recent Scientific History of the Earworm,” 42–65.

¹³ Zoe Curzi, a psychology researcher at Leverage describes objects as “sort of like autonomous psychological bits that you could accidentally or purposefully leave in another person's mind to affect or control them. If intentional, it might cause them to subtly view you a different way, make more real or less real certain concepts, change their

While psychological objects are not by their nature negative—they can sometimes be pleasant or helpful—many of Leverage’s psychology researchers reported encountering negative psychological objects which sometimes appeared to them to be from other people including in some cases others at Leverage. These ranged in effect from mildly annoying to highly distressing and were reported to cause a wide variety of physical and psychological effects including vivid persistent visual images of a disturbing nature, the sudden onset of coughing, physical pain, especially pain caused by sudden increases in muscle tension, nightmares, fears of being mentally invaded, and the sudden onset of fight or flight responses around specific people among other effects. These experiences led to a substantial degree of alarm about both the possibility of picking up harmful psychological content from others at Leverage and the possibility that especially harmful psychological content might be transmitted second-hand to people outside of Leverage. In some cases, individuals were concerned enough to take measures to avoid particular people and advised others to do the same. These concerns among other factors led to a substantial breakdown in coordination and communication among Leverage’s senior-level leadership and are among the factors in the end of the Leverage research collaboration.¹⁴

Historical antecedents



Although some Leverage researchers took themselves to be exploring novel territory, the topic of nonverbal communication and its psychological impacts is not new. Related phenomena have been subject to investigation since before there was a distinct field of psychology, with some researchers reporting phenomena quite similar to those encountered by Leverage investigators. The literature is broader than can be covered at present, but a few instances of historical work bear noting.¹⁵

Muscle Reading¹⁶

The closest set of results probably comes from “muscle reading,” the practice of discerning or intuiting someone’s train of thought from bodily cues (hand movements in the prototypical case, see figure 2). The basic idea was first

experience of the passage of time, say, or make them more susceptible to mind-reading attempts in the future, etc.” Curzi, “My Experience with Leverage Research.” I take Curzi’s report to be consonant with the description provided here.

¹⁴ The difficulties associated with psychological objects are discussed in greater detail in the “considerations for future research” section, below.

¹⁵ The following draws on materials from ongoing research on the early history of psychology. Further context may be found in the supplemental document “The Muscle-Readers, a Historical Sketch” available at <https://www.leverage-research.org/intention-research>.

¹⁶ Image from Beard, *The Study of Trance, Muscle-Reading and Allied Nervous Phenomena*, plate 1

described by physician George Beard in an article debunking the contact mind reader J. Randall Brown. At the time, performers like Brown were quite popular. Audiences large and small were treated to such striking displays as the guessing of imagined names, the reproduction of recalled melodies, and the blindfolded location of hidden objects.¹⁷ A few even incorporated intuiting simple drawings and banknote serial numbers into their acts.¹⁸ Struck by the performances and the public's increasing credence regarding the mind readers' claims, scientists like Beard began developing their own accounts of the performances. Many could be explained by means of trick blindfolds, planted audience members, and the like. For those that could not, however, skeptics pointed to ideomotor action—subtle, unconscious movements associated with specific patterns of attention and ideation.

Evidence for the idea soon emerged from studies of cooperative performers. In one case, a group of British scientists worked with the purported mind-reader Washington Irving Bishop in a series of controlled tests. When contact was present, they noted, the performer was quite adept. In a run of localization tests, for example, the blindfolded man was able to find a small object hidden under a drawing-room rug, a pencil case stuck in a chandelier, and a matchbook hidden inside a shelved book, with some successes coming in under a minute. In another test, he was able to work out the specific body part held in mind by naturalist George Romanes (his right large toenail)—a performance reminiscent of the “attention pointing” of the previous section. Significantly, though, Bishop's performance dropped to chance levels when contact was interrupted, leading the investigators to conclude that it was based on some form of nonverbal physical cueing. Years later, a quantitative assessment of purported telepath Eugen de Rubini by Berkeley psychologists revealed a similar pattern.²⁰ When given a simple binary choice task the mentalist chose correctly on 24 of 30 trials where he and the experimenter were connected by a slack watch chain, 45 of 70 trials with no chain but the possibility of visual cues, and a mere 14 in 30 when both visual and tactile cues were limited.

Beyond working with stage performers, a number of psychologists took the practice up themselves. Cue reading was used as a proof of concept in the famous Clever Hans investigation, for example, and had, by 1908, become the subject of intensive investigation by University of Wyoming professor June Downey. The latter's reports are particularly interesting, as their author is perhaps the only trained psychologist to have become as adept at the practice as the stage performers. After years of practice, Downey reported that she had managed to duplicate almost the entire range of mind reading acts. These included working out dates imagined by a subject, reconstructing multisyllabic words, and “finding a book and identifying therein a word chosen at

¹⁷ Descriptions may be found in Bishop, *The Enigma of the 19th Century*; Beard, *The Study of Trance, Muscle-Reading and Allied Nervous Phenomena in Europe and America*, 16–25.

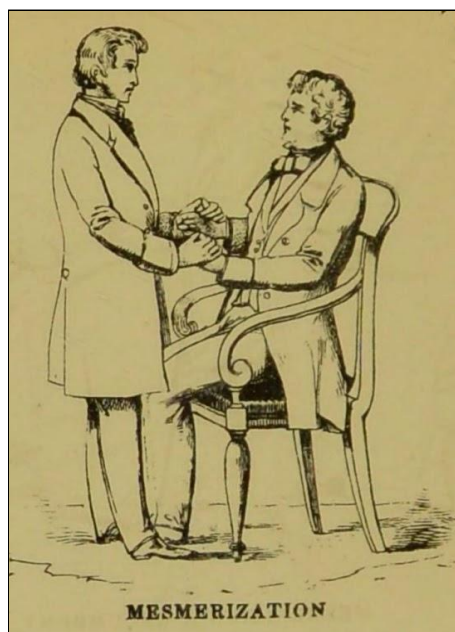
¹⁸ Cumberland, *People I Have Read*, 12–15, 36.

¹⁹ Beard, *The Study of Trance, Muscle-Reading and Allied Nervous Phenomena*, plate 1.

²⁰ Stratton, “The Control of Another Person by Obscure Signs,” 301–14.

random,” though such feats could not be accomplished with all subjects.²¹ For the most part, though, she focused on the more basic task of locating objects hidden by participants, assembling data about the impact of subject background and testing the effects of different reading strategies and objects of attention. Curiously, she reported that explicit attention was not required for successful object location and that, in as many as one fifth of cases, the reader retraced the subject’s path in hiding the object rather than going directly toward it—a fact that Downey took to show the availability of unconscious information to “reading.”²²

Most studies conducted in the area were focused more on demonstrating the existence of the phenomena (and countering popular telepathy claims) than outlining its phenomenology. Nevertheless, there are a few self-reports that seem relevant. On the readers’ end, one finds the experience described in different terms by different people. Unsurprisingly, some reported an explicit reliance upon their subjects’ “muscular thrill.” The most skilled practitioners, however, seem to have adopted a more intuitive approach. The celebrated performer and noted debunker Stuart Cumberland, for instance, argued that it was better for the reader to “take the initiative” in performances and that his own method relied primarily on a holistic sense of a certain direction or target being “right.”²³ Indeed, if the mentalist’s assertions are reliable—a not insignificant supposition, despite his credentials as a public skeptic—then the underlying mechanism was so opaque that he only came to believe that it was tactile rather than telepathic after protracted study, suggesting that one could well come away from the experience with a very different view. Subject experiences are harder to come by, but a particularly odd report can be found in one of



Downey’s studies. When serving as a guide under conditions of distraction, Downey asserts, she underwent a “fatiguing,” almost dissociative experience “of operating in two sections” or having a “coconsciousness.”²⁴ The report was not followed up on, but as we shall see, similar “object”-like experiences have been reported in other domains.

Mesmerism and Early Hypnosis²⁵

This brings us to the second set of antecedents. Though the methods developed at Leverage involved neither the trance states nor extreme suggestibility associated with hypnosis, the substantial literature hypnosis has produced over the years contains many reports reminiscent of intention phenomena. In its earliest forms, hypnosis—or, more

²¹ Downey, “Muscle-Reading,” 267.

²² Downey, “Muscle-Reading,” 279; Downey, “Automatic Phenomena of Muscle-Reading,” 650–58.

²³ Cumberland, *A Thought-Reader’s Thoughts*, 2–4, 314–15.

²⁴ Downey, “Automatic Phenomena,” 657.

²⁵ Image from Davey, *The Illustrated Practical Mesmerist*, plate 1.

properly speaking, mesmerism—relied heavily on nonverbal interactions, including hand and eye contact. Subject and operator would maintain a mutual fixation over the course of several minutes, culminating in a state of close attentional alignment known as rapport. In this condition, subjects were said to be capable of intuiting the mental states of mesmerists and others with whom they came into contact or had their attention directed toward.²⁶ Classical descriptions of the phenomenon included reports of sympathy pains, emotional contagion, and claims from practitioners that patients could, in effect, read their minds.²⁷ In the first instance, such effects were attributed to the presence of “sympathetic clairvoyance” or the operation of a distinct “magnetic fluid.” As time went on, though, it became more common to attribute such phenomena to nonverbal cues and heightened attention on the part of hypnotized subjects.

Practitioners also claimed to generate a variety of psychological and therapeutic effects, many of which remain topics of investigation today.²⁸ These included rendering certain stimuli more or less salient in waking life and efforts to work through emotionally difficult content.²⁹ Effects were typically achieved through verbal interaction, but they could also be channeled through non-verbal pathways, provided the participants shared enough background or common experience to give meaning to the operator’s movements.³⁰ Passage of the hand over a specific part of the body or the delivery of a loaded gesture often sufficed to produce fairly specific effects or augment those brought about through verbal suggestion.³¹ As early as 1840, in fact, one can find texts warning that potentially serious results such as false memories could result from “involuntary suggestions” on the part of an overexcited operator.³²

Reports on the experience of hypnosis were, like those of muscle reading, somewhat varied. Subjects showed no awareness of the suggestions they were given, and anecdotes of subjects confabulating explanations of their strange behaviors are a staple of the literature. In some cases, though, there did (and do) emerge anomalous experiences, including a strong sense of foreignness and recalcitrance surrounding some contents and, in some cases, the distinct impression that one’s beliefs and actions were being influenced by foreign psychological

²⁶ The most in-depth treatment of the phenomenon is provided by Moll, *Der Rapport in der Hypnose*.

²⁷ The earliest descriptions of “rapport” were made by the Marquis de Puységur, a student of Mesmer’s. See Crabtree, *From Mesmer to Freud*, 39–45.

²⁸ For a recent review of hypnosis and its mechanisms, see Jensen et al., “New Directions in Hypnosis Research,” 1–14.

²⁹ Moll, *Hypnotism*, 148–49, 340–46. Needless to say, the claimed treatments included a mix of plausible and dubious interventions. At least some of the reports have been vindicated by subsequent and more rigorous study (see Flammer and Bongartz, “On the Efficacy of Hypnosis,” 179–97).

³⁰ Townshend, *Facts in Mesmerism*, 569; Gregory, *Animal Magnetism*, 68, 156–59.

³¹ The most striking example of the pattern is likely that of “phreno-hypnotism,” a practice in which 19th century hypnotists produced specific emotional, perceptual, and motor effects by touching specific locations on a hypnotized subject’s head. As is clear in retrospect, the effects—which were multiply attested to by prominent psychologists—had to have resulted in part from the subjects’ and experimenters’ construals of the process rather than the underlying theory’s accuracy. See Moll, *Hypnotism*, 85–86. For an early discussion in the mesmeric context, see also Gregory, *Animal Magnetism*, 87–93.

³² Gregory, *Animal Magnetism*, 30. Like Puységur, Gregory was inclined to see something paranormal in the effect.

content.³³ A particularly effective means of generating such experiences was “automatic writing,” a process in which subjects are made to write continuously while performing a simultaneous distraction task. For those able to perform the feat (which could be aided by hypnotic suggestion), feelings of external control and of the non-ownership of mental content would often emerge, sometimes in extremely acute form.³⁴ One habitual automatic writer, for instance, described the feeling of “a foreign presence, external to [her] body.” “It is sometimes so definitely characterized,” she noted, “that I could point to its exact position,” adding that the sensation was “impossible to describe” outside of the general sense that the source had an associated personality (e.g., a close friend).³⁵ In recent years, similar experiences have been produced in the lab using hypnotically induced automatic writing and, in one study, a combination of contextual cues and stage magic techniques designed to give the impression of thought insertion.³⁶ Although the processes are distinct, it is at least plausible that the early Leverage experiences are related to those involved in hypnosis and suggestion research, as they share some background conditions (a culturally reinforced expectation of between-mind interactions, self-conscious efforts to modulate attention, etc.).

Considerations for future research

While the phenomena studied in intention research are potentially important and interesting, it is an open question both at Leverage today and among Leverage’s former psychology researchers as to whether and how future research into this topic should occur. This hesitancy is at least partially a product of Leverage’s pre-2019 research culture which was particularly concerned with the potential misuse of the results of Leverage’s research. Additionally, the experience of Leverage’s psychology researchers suggests that studying the phenomena could cause harm to those who study it, especially if one aims to render oneself more sensitive to nonverbal communication in order to study the effect.

Indeed, concern on the topic of psychological effects via nonverbal influence is nothing new. Mesmerism caused sufficient disruption to French society that two scientific commissions were appointed to investigate its claims, and in particular the claim that the effects were caused by the manipulation of a subtle magnetic fluid known as “animal magnetism.” After demonstrating that there was no need to posit a magnetic fluid to explain the physiological effects mesmerists had on patients, the Franklin Commission (headed by Benjamin Franklin) reached the following conclusion:

³³ Gregory, *Animal Magnetism*, 157; Moll, *Hypnotism*, 178, 329; Royal Commission on Animal Magnetism, *The Reports of the Royal Commission*, 58.

³⁴ For a history of the area, see Koutstaal, “Skirting the Abyss,” 5–27.

³⁵ Cited in James, *The Varieties of Religious Experience*, 62.

³⁶ Walsh et al., “The Functional Anatomy and Connectivity of Thought Insertion and Alien Control of Movement,” 380–93; Olson et al., “Simulated Thought Insertion,” 11–26.

People speak of ‘magnetism of intention’; undoubtedly intention can be sufficient provided it is reciprocal; . . . That intention which I direct is commanded by my imagination; that intention that responds to me is exalted by the obedient imagination. . . . Man has the power to act on his like, to disturb his nervous system and to imprint convulsions on him. But this action cannot be regarded as physical; . . . it is entirely mental, it is the action of imagination on imagination.

He continues:

This action is always dangerous; one can observe it as a philosophy and it is good to know it only to foresee or forestall its effects.³⁷

Concerns about both individual and group-level harms from this kind of research should be taken seriously as part of any further investigations in this area. In this section I consider some of the issues that would be at stake should one wish to conduct additional research in this area.

Potential harms

Negative psychological and psychosomatic effects

Many of Leverage’s psychology researchers report experiencing a variety of negative psychological and psychosomatic effects from their interaction with intention phenomena despite attempts to avoid this. These experiences included vivid persistent visual images of a disturbing nature, the sudden onset of coughing, physical pain, especially pain caused by sudden increases in muscle tension, nightmares, and the sudden onset of fight or flight responses around specific people.

Similar—and in some cases stronger—effects are documented in the historical analogues. Mesmerism, for example, was reported to produce “crises,” a state that involved fainting, convulsions, spasms, and delirium.³⁸ In both early hypnotism and muscle reading there are also reports of dissociative phenomenology which bears at least a superficial similarity to the phenomenology of psychological “objects” including the sense of mental content that is not one’s own or mental content that is foreign in some way. There is also the possibility that negative effects from intention research could persist over longer periods of time.

However, it is difficult to disentangle several causal factors that could produce negative effects even in cases where the phenomenology of those effects bears clear resemblance to the canonical phenomena in the area of study. In Leverage’s case, for example, intention research took place in

³⁷ Royal Commission on Animal Magnetism, *The Reports of the Royal Commission*, 82.

³⁸ Royal Commission on Animal Magnetism, *The Reports of the Royal Commission*, 22. See also page 31 for a description of *crises* written by Lavoissier as part of a summary of the report.

a social context that included a general breakdown in coordination and leadership structures, harassment from nearby communities, lack of formal support structures, funding problems.³⁹ The end of the collaboration was an additional stressful factor for most participants, which may have exacerbated some of the negative effects caused by intention research.

Having noted the difficulty of disentangling causal factors, several of Leverage's psychology researchers have proposed accounts for why research into intention phenomena could plausibly cause negative effects. One view is that intention research involves trying to access subconscious psychological content. This content is subconscious for a reason, however, and so intention research involved trying to uncover psychological content that was perhaps best left covered. Another view is that the information available through detecting psychological content from others nonverbally accounts for many of the negative effects observed at Leverage. On this view, researchers experienced some negative psychological and psychosomatic effects from intention research, but this was intensified by the belief that this content came from or was believed by others. For example, a researcher might experience some negative effects from their research which appeared to be related to Alice and also detect psychological content from Alice which suggests that Alice hated them or intended to harm them in some way. This would then naturally lead to the inference that the negative effects were caused by Alice and thus to an understandable increase in paranoia about interacting with Alice.

A third view is the sensitization hypothesis. On this view, individuals vary in the degree to which they are naturally affected by the subtle nonverbal communication of others and most people are less than perfectly sensitive to this kind of communication. Studying intention phenomena, especially studying the phenomena by learning to produce effects like those described above can lead one to become more sensitive to this kind of information, especially if one attempts to learn to interact with it. However, the new information may turn out to be unpleasant and the process of becoming more sensitive to it may be difficult to reverse. This means that studying intention phenomena could cause one to become more sensitive to an unpleasant stream of information.

Increased sensitization might also carry the risk of false positives. For example, a sensitized person might be more likely to attribute to others intentions that they do not have or to infer a causal connection between the intentions of others and their subsequent actions when other factors might provide a better explanation. Indeed, the historical antecedents suggest this as a particular area of concern. In the case of mesmerism, for example, the Franklin commission tells the story of a woman who had come to participate in the experiments on mesmerism and fell into a full *crise* after interacting with people entirely unaffiliated with the experiment or mesmerism; apparently because she falsely believed they were magnetizing her.⁴⁰ More recently, research into

³⁹ See Leverage Research, "Factors and Mistakes," for more information.

⁴⁰ Royal Commission on Animal Magnetism, *The Reports of the Royal Commission*, 58. The report indicates that "it was pointed out to her that she was not being magnetised but her imagination had been so fired that she replied: if you were not doing anything to me I would not be in the state I am in. She knew that she had come to take part in

“facilitated communication” provides a similarly clear example of false positives in the attribution of a purported ideomotor phenomenon.⁴¹

Of course, many of Leverage’s psychology researchers did choose to become more sensitive to subtle nonverbal communication even knowing about potentially adverse effects. This was partially because many of Leverage’s psychology researchers either did not anticipate the severity or duration of the effects that would arise or believed they would be able to fix issues should they occur. The available evidence indicates that this wasn’t true in all cases, but the total frequency with which this caused longer-term negative effects is not clear.⁴² At least some of the negative effects from intention research reported at Leverage could be explained by unique facts about Leverage or the individuals who participated in the research.⁴³ In any case, the sensitization account is sufficiently plausible that the risks associated with sensitization should be taken into account when deciding whether to conduct future intention research.

Social disruption

Intention research was also associated with, and at least partially causative of, a substantial degree of social disruption at Leverage leading to a breakdown in working relations. It is, of course, often difficult to determine the exact cause of any specific conflict, but some examples that seemed to those involved to be related to intention research include:

- Researchers who had previously worked together closely suddenly found their interactions to be unpleasant, describing the experience as analogous to as if one of the researchers was “giving off a high-pitched buzzing noise” which the others found very annoying.⁴⁴ Introspection and analysis on this topic led to the conclusion that the issue was caused by a subtle change in one person’s intention towards the others.
- Multiple researchers experienced changes in their social relations at Leverage in ways that they found harmful and that seemed to them to be sudden and unexplained.⁴⁵

experiments; anyone approaching or the slightest noise attracted her attention and reawakened the idea of magnetism and renewed the convulsions.”

⁴¹ On facilitated communication see Wegner, Fuller, and Sparrow, “Clever hands,” 5–19; Jacobson, Mulick, and Schwartz, “A History of Facilitated Communication,” 750–65.

⁴² See Curzi, “My Experience with Leverage Research.” Additionally, at least one other researcher indicated to me via private correspondence that they believed they experienced long-term negative effects from engaging in intention research.

⁴³ For a discussion of ways in which Leverage’s culture may have contributed to negative experiences in intention research see Leverage Research, “Factors and Mistakes.”

⁴⁴This is discussed in a video recording of an internal presentation at Leverage Research recorded in 2018.

⁴⁵ Cathleen writes: “Something happened to switch [people’s views of her], and I’ve never figured out what or why. The people I’d been supporting seemed to stop appreciating my efforts and were quick to come to harsh judgments about my motivations and limitations that led them to exclude me or circumvent me and blame me for perceived shortcomings instead of looking for solutions together. . . maybe advancements in our psychology tools or effects and perceptions from the intention research were a contributing factor?” Cathleen, “In Defense of Attempting Hard Things.”

- Intention research “caused some people to lower their overall assessment of people’s benevolence” and “affected people’s plans for their research as well as their plans for coordination with others.”⁴⁶
- On multiple occasions there was a new and sudden occurrence of the belief among some researchers that someone else at Leverage was causing negative effects on others without the allegedly affected individuals being aware of the alleged harm.
- There was a general increase in both suspicion of others and in explicit articulation of these suspicions to others.

While intention-related claims were an important component of several individual disputes and disagreements, it is of course entirely possible that the primary causes of the disputes were more obvious factors like competing visions of the organization’s future. Similarly, in cases where the apparent dispute did not relate to intention research, it is possible that the real dispute actually did relate to either intention research or clashes among individuals’ intentions in some way.

With that uncertainty noted, there are plausible models according to which intention research would be more socially disruptive than other kinds of psychology research. Many of Leverage’s psychology researchers describe intention research as opening a new channel of information to persistent conscious access. In some cases this new information was either at odds with the preexisting impression researchers had of others or drew attention to interpersonal conflicts that had previously been smoothed over. For example, a researcher who previously seemed thoughtful and receptive to the ideas of others might be found to be nonverbally transmitting the sense that everyone else’s ideas were bad and wrong. Or a researcher who previously seemed caring and compassionate might be reinterpreted as condescending in light of their nonverbal communication.

Dissonance between one’s preexisting impressions and the information they were interpreted as transmitting nonverbally created a number of challenging problems. For example, should such clashes change one’s overall assessment of the person? How much weight should one give to the nonverbal information as compared to other sources of information that one has about others? Further, even if one concludes that such information should not factor heavily in the assessment of others, there is the question of what to do in cases where the nonverbal information nevertheless produces new difficulties in interacting. Consider, for example, the case described above where changes in intention caused an interaction to be analogous to as if one of the researchers had started involuntarily giving off a high-pitched buzzing noise. It seems quite difficult not to limit one’s interactions with the person in such a case, regardless of what one thinks about the epistemic status of such information.

⁴⁶ Cathleen, “In Defense of Attempting Hard Things.”

It appears that intention research was socially disruptive in the case of Leverage's research collaboration and there are some reasons to think that this effect was not solely a product of Leverage's unique research culture.

Epistemic challenges

Intention research also raises a number of important epistemic challenges. Some of these challenges are general to research into unusual mental phenomena, such as the difficulty of replicating effects that purportedly require skilled practitioners to produce. There are, however, some epistemic challenges that are more specific to intention research itself. These include the difficulty of verifying claims around shared mental content and the difficulty of studying phenomena when one's beliefs about the phenomena are thought to change the phenomena themselves.

The problem of shared mental content

As Leverage's intention research developed, most psychology researchers came to believe that it was possible to nonverbally transmit substantial amounts of mental content between people. In order to study this phenomenon, researchers began looking for cases where this appeared to happen so that they could study the nature of the transmitted content. This naturally led to the interesting epistemic problem of how to determine the properties of psychological content that is shared among people and how to reach consensus with others about those properties. The issue is easiest to see with a somewhat more mundane hypothetical example.

Grace and Harper discuss whether Isaac was nervous

Grace and Harper are discussing a project with their colleague Isaac. After the conversation, Grace mentions to Harper that Isaac seemed really nervous during the conversation. Harper says that the conversation seemed a bit off to her, but she didn't notice Isaac seeming nervous in particular. Grace asks Isaac about the conversation later and Isaac says that he doesn't recall feeling nervous about anything.

In the simple case where Grace, Harper, and Isaac all agree that Isaac was nervous, the case seems straightforward. In the case where people seem to disagree, determining the most likely fact of the matter is surprisingly tricky and probably requires understanding quite a lot about the surrounding social context in order to do well. Information that might be relevant includes: whether Isaac generally seems like an anxious person, whether the conversation was something he might be anxious about, whether Grace and Harper are skilled at picking up subtle social cues and good at picking up on anxiety in particular, whether Isaac seems like the kind of person who might be anxious without knowing it, whether Isaac might misrepresent his anxiety and so on. It is not difficult to imagine many different ways of specifying the social context such that it is natural to conclude either that Isaac was nervous or that he was not.

Determining whether some piece of mental content had been shared between people was, in many cases, a similarly complex and uncertain process and the novelty of intention phenomena meant that researchers also lacked preexisting social conventions to help make the process of syncing up easier. Additionally, some of the early findings in intention research ruled out using simple agreement with others to determine whether particular content had been transmitted or the nature of specific content. In particular, there appeared to be a commonly observed pattern of variable access to mental content. Some people appeared to be generally better at accessing their own psychological content and at making accurate claims about the psychological content of others. Yet, individuals were also subject to blindspots which were repeated patterns where an individual might fail to notice or misinterpret particular kinds of mental content. Additionally, as a result of prior research both inside Leverage and elsewhere, many researchers believed that psychological content could be causally efficacious without being easily detected by the person being affected.

There was also the practical problem that researchers approached introspection differently from each other. For example, individual researchers sometimes differed substantially in the introspective interface that they found natural. Whereas one researcher might experience mental content as images, others might experience it as abstract ideas, short phrases, bodily sensations or in terms of other experiences. Determining whether content was in fact different or the same content described in terms of different introspective interfaces posed special difficulty. Additionally, researchers differed in terms of their introspective strategies. Generally speaking, one can interact with mental content through description (e.g., “I’m getting a sense of heat in my chest”), articulation (e.g., “you all are bad and get away”) or inference (e.g., “I’m angry that I wasn’t invited to the party”). Researchers engaged in different strategies at different times and this made it more difficult to determine if two people’s descriptions of mental content were the same.

In practice, researchers used a complex process for determining whether a piece of mental content was shared between people. The factors that researchers relied on were different in different contexts, but they included assessments of the introspective skill of the individuals and their blindspots, comparison of introspect reports to determine if the reported content was the same and if not, whether the content was compatible, attempts to locate and communicate specific externally-legible signs of the content (e.g., “I noticed it when you said this”), intuitive assessments of an individual's level of confidence in their reports, analysis of the social context to determine if claims about the content are plausible, and so on. However, this process was doubtlessly prone to errors and determining ways of reducing these errors is a major challenge for research on nonverbal transfer of mental content and for introspection-centric research more generally.

The effect of researcher beliefs on intention research

A core hypothesis of Leverage's intention research is that there is a relationship between the beliefs researchers have about the area and the information that is available to them through nonverbal communication channels. This means that certain beliefs and attitudes will be conducive to detecting subtle nonverbal communication whereas others are not. This assumption raises a number of challenging epistemic issues that future research into this area would need to address.

Among Leverage's psychology researchers, the assumption that there was a connection between beliefs about intention research and the information one could detect was a core part of how researchers came to be able to research the area. Individual researchers who were interested in intention research generally went through a process that involved first just trying to produce the effects that they had heard about or seen, then describing their mental process or intention to other researchers and getting feedback.⁴⁷ Often this process would lead the researcher to identify intentions and attitudes in themselves that appeared to be preventing them from producing the effect. The researcher would then try to modify their intention and see whether their ability to produce the effect improved. Most of the changes this process identified were idiosyncratic to the individual researcher such that belief changes that aided one researcher might turn out to be counterproductive for others. Thus, it is difficult to make general statements about what specific attitudes or beliefs one ought to hold in order to detect the phenomena and it is likely that a variety of different beliefs and attitudes would prove successful.

There were certain patterns, however. Researchers generally understood themselves to be engaging in a truth-directed activity and understood themselves to be modifying their beliefs in order to be more in line with facts about themselves or human nature more generally. Indeed, attempting to force oneself to adopt certain beliefs or attitudes without evaluating contrary evidence was thought to be at least counterproductive, and potentially harmful. Additionally, most researchers believed that the information available through subtle nonverbal communication was already present in their mind in some sense and that part of the activity of learning to conduct intention research involved gaining greater access to this preexisting information. This typically involved learning to state one's inchoate sense of others more clearly and learning to trust that sense more over time.

Perhaps the most important pattern for our purposes, however, is in how researchers described the core mental activity or mental instructions they were using to detect intention-related phenomena. Getting the mental instructions right was thought to be important and the details varied between researchers and across tasks. Researchers describe paying attention to the "vibe"

⁴⁷ Notably, this cannot be the case for whichever researcher first describes a phenomenon since they have no other practitioners to consult. I suspect the discovery process will be idiosyncratic to the individual researcher and the phenomenon they discovered although I lack detailed firsthand information about the discovery process for most of the phenomena described here.

or “energy” of others, tracking people’s attention and “moving” or “dragging” their attention to a new location, “showing” people something in their mind or “letting them in” among a myriad of other descriptors.

What is interesting about these descriptions is that, while most of Leverage’s psychology researchers would agree that subtle nonverbal communication is a likely mechanism by which information is transmitted in intention-related phenomena, I suspect very few of them produced these effects by directing their mind to pay attention to subtle nonverbal communication from others. Indeed, it seems likely that for most people, trying to pay attention to nonverbal communication would actually be counterproductive because it would focus one’s mind on the wrong sorts of things in much the same way that paying attention to the muscles in one’s eyes is counterproductive for reading.

This is also observed in the muscle reading literature. One skilled muscle reader recommended that readers should “take the initiative” and rely on a holistic sense of what was right instead of focusing on muscular movements.⁴⁸ Another practitioner advised that “many amateurs succeed in catching ideas from other persons . . . but these amateurs never succeed if they watch for the signs. They succeed only when they ignore the signs and attend to the meanings. In fact, if amateurs who succeed brilliantly in muscle reading tests become convinced that their performance really is muscle reading and nothing more occult, they can usually do the trick no longer.”⁴⁹

Thus, the experience of both muscle readers and Leverage’s psychology researchers suggests that there may be a phenomenological gap between the mental instructions that prove useful and the likely causal mechanisms involved in producing the effect. This disconnect makes precise descriptions of how the effect works more difficult. It also provides a potential explanation for some interesting aspects of the historical antecedents. Consider mesmerism with its reliance on a subtle magnetic fluid (so-called “animal magnetism”) as the proposed causal mechanism for the phenomena of mesmerism. After the Franklin Commission dismissed animal magnetism, suggesting that the effect was caused by “the action of imagination on imagination,” an obvious response by mesmerists would have been to accept that the effect was mental and to instead begin studying how one’s imagination could produce effects as strong as convulsions or as surprising as occasional healing effects.⁵⁰ Yet, mesmerists largely took the opposite approach, redoubling efforts to show that the effect was not mental. It may have been, for instance, that when mesmerists tried to manipulate a subtle magnetic fluid they saw powerful effects, but not when they tried to manipulate ‘the action of imagination on imagination.’ If this is what they observed, it may then be unsurprising that they theoretically favored non-mental causal explanations.

⁴⁸ Cumberland, *A Thought-Reader’s Thoughts*, 2–4, 314–15.

⁴⁹ Dunlap, “The reading of character from external signs,” 163

⁵⁰ Royal Commission on Animal Magnetism, *The Reports of the Royal Commission*, 82.

Conclusion

This has been an introduction to Leverage's intention research, especially the research that occurred between 2018 and mid-2019 into a variety of phenomena pertaining to subtle nonverbal communication. To conclude, I want to offer my own perspective on what I take to be the two central questions about intention research: (1) is this a real thing and thus is there something here to investigate?; (2) is further investigation a good idea or might it pose too many risks?

How promising is future research in this area?

Broadly speaking, I think there are three kinds of reactions one might plausibly have to this report and to the claims made by Leverage's psychology researchers about their work in this area:

- **New area:** One might think that intention research represents a new area of research into psychology or introspection. For example, one might think that the phenomena themselves are previously undescribed phenomena or one might think that the phenomena are not new, but the intention framework is an important new perspective in how to study subtle nonverbal communication.
- **Common sense:** One might think that intention research is not too dissimilar from common sense views about the importance of nonverbal communication and the dynamics of interpersonal interaction. Even for those phenomena that don't appear to be common sense at first glance (e.g., attention pointing or psychological "objects"), one might seek to explain them entirely in terms of common sense psychological or sociological phenomena.
- **Error:** One might think that intention research is mistaken in some important way. Perhaps the purported phenomena are not sufficiently reliable to be studied. Perhaps Leverage's researchers became carried away with the examination of phenomena too subtle to pin down, or otherwise became confused about what they were observing. Perhaps there is some more fundamental flaw.

One might naturally expect intention research to turn out to be some combination of all three.

It seems quite likely to me that some of the purported phenomena will prove irreproducible if studied more carefully by others and some phenomena will turn out to operate quite differently than my current understanding. This is a prediction based in part on where Leverage's psychology researchers were in the research process when the Leverage research collaboration dissolved. The substantial lack of agreement among researchers suggests that the research was at a quite early stage and I expect that subsequent refinements would have included using new tools or models to investigate previously reported phenomena to see whether they hold up and that

some previous reports would have been discarded. Thus, I expect similar results from any continuation of this research performed by others.

For those phenomena that remain, I suspect we will find many more referents in common sense, everyday experience, and folk wisdom than is immediately apparent. Indeed, this has been my own experience since first encountering this research in 2018. It is also consistent with how several of Leverage's psychology researchers that I know personally have changed since Leverage dissolved. In several cases, researchers became (in my estimation) more receptive to common sense, intuition, and spirituality as sources of useful information and guidance in part because they came to believe that these were important sources of implicit wisdom, in some cases because of their relation to nonverbal communication.

I also think that intention phenomena and similar phenomena discovered by others are not well documented or described in authoritative literature and to the degree that they are, this has not made its way into the mainstream intellectual consensus. This can be seen most starkly in the case of muscle reading. The literature on muscle reading establishes quite convincingly that it is possible to determine a variety of mental content through subtle ideomotor action including, for example, the location of an object held in mind by a subject. Despite this, the field has gone from widely accepted in textbooks as the explanation for phenomena like Clever Hans to widely unknown among psychologists without any substantial change in evidence. I suspect that subtle nonverbal communication will ultimately explain a number of commonly reported but poorly understood effects and that our understanding of people will be much improved by studying it.

Ultimately, my view is that there is something interesting to investigate around the influence that nonverbal communication can have on people's psychological states and its importance in explaining sociological phenomena. Leverage's intention research offers one potential starting point for studying these effects, although likely there are many.

Considerations pertaining to future research

Another important question is whether further investigation into intention research or related phenomena should occur. The benefits to further research have the potential to be substantial insofar as it may help provide important insight into the mind and how people interact with one another. There are, however, a number of considerations which should be weighed against these benefits and which should inform any future research on this topic.

One important consideration is the objective epistemic difficulty of the landscape. As already discussed there are serious challenges in determining whether specific mental content is shared between people, in navigating the complex relationship between researcher beliefs and ability to produce the relevant effects, and in determining what the information available nonverbally means about the world. The relative success of muscle reading in gaining mainstream acceptance

for a related phenomenon provides some hope in this regard, but these challenges should not be underestimated.

There are also risks associated with this research. On an individual level, researchers that aim to gain practical knowledge of how to produce any of the phenomena mentioned here (or related phenomena) should take seriously the hypothesis that doing so may sensitize oneself to a new and potentially unpleasant stream of information. It may be possible to mitigate these effects, but this risk should be carefully considered.⁵¹ There may also be group-level risks that arise from gaining sudden access to a stream of potentially difficult and confusing content about others. There was certainly a correlation between intention research and internal tension at Leverage although for reasons already discussed, the degree to which this connection was causal is difficult to determine.

Finally, it is important that researchers in general think carefully about the consequences of their work, and this domain is no different. Further understanding of personal and interpersonal psychological mechanisms has the potential to greatly benefit society but could also yield negative consequences, as we have seen many times in the past. Intention research in particular demands careful consideration as there is already *prima facie* reason to believe that research in the area can produce deleterious personal and interpersonal effects. This is not to propose a general ban on the area or anything similar. Rather it is simply calling attention to the obvious fact that better understanding subtle nonverbal communication might have important consequences, and it is the responsibility of researchers to ensure that those consequences are positive.

On a personal note, I've found intention research to be a fascinating subject ever since I first encountered scattered reports of unusual nonverbal effects from friends of mine who were psychology researchers at Leverage. The topic is interesting enough that it seemed worth several months of effort trying to understand and faithfully report what researchers found. Yet, I have not tried to sensitize myself such that I could learn how to produce some of these effects myself. The researchers I spoke to were quite clear about the uncertainty and potential risks involved and learning to produce the effects didn't seem worth the risk. I don't know whether this was the right choice, but I do think it was a plausible one given the evidence.

⁵¹ One reviewer of this piece suggested that other research traditions studying similar effects may have practices designed to help with the problem of sensitization (e.g., mental practices for "blocking out" content from others) although I haven't investigated this personally.

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⁵² The author is cited on a first name basis only per her request. (See Cathleen, “In Defense of Attempting Hard Things,” preface.)

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