

# Group Consciousness

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Humans have lived in a social environment for far longer than history has been recorded. The primary instrument of this way of life has been language, an ability apparently unique to humans in its flexibility and necessity. Language, at its finest, serves to bring the listener's state of mind into consonance with that of the speaker. At its worst, language is used as a weapon to harm the listener, or force him to harm others. Usually, though, language is a fact of life that assures that humans know what those around them are going to do. As an internal tool, language lets humans organize their thoughts into structures far too complicated to be perceived as a whole without some sort of symbolic scaffolding. Thus, language lets us make plans.

The aspect of language most relevant to the following discussion, however, is its use as a tool for communication. In this capacity, language has widely varying levels of performance. Usually language will be used as a tool for manipulation, for consultation, or for bringing people closer together (*closer* meaning, I suppose, more similar). But language has its limits in these respects. This essay will explore the possibilities arising from the ability to directly communicate one's state of mind to others.

There are various candidates for implementing a direct mental "fusion." It is possible that the brain has an innate primitive ability to communicate without words. This mechanism would surely have lost its predominance once language was invented, since language has the ability to be quite specific, whereas it seems reasonable to assume that any innate non-sensory communication would offer only a vague idea of the emotional state of others.<sup>1</sup> Thus, though this would often be a useful ability, it is somewhat unsatisfying. To truly develop a *human* consciousness greater than the individual, whole thoughts must be somehow relayed.

One method of achieving this ability would be a device that would somehow scan the electrical state of the axons in the Corpus Callosum.<sup>2</sup> Since this body of nerve fibers is "standard hardware" in all human brains, it is possible that the signals it carries might have meaning in the context of another human's brain, with the assistance of a translation mechanism. Moreover, since it is a demonstrated fact that the illusion of fused consciousness is profoundly disrupted by the severing of the Corpus, it seems that it does indeed carry significant information probably sufficient to give a detailed description of the mental state.

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<sup>1</sup>This is in the tradition of Isaac Asimov's Second Foundationers or Gaians.

<sup>2</sup>This would hopefully not include any surgery.

A computer interface would be used to map the axonic arrangement of one individual's Corpus to that of the other. This mapping could most efficiently be determined by extensively conditioning a neural net on each individual to be fused.<sup>3</sup> Thus, a mental interlinguum would be developed. A properly conditioned net could translate the context-dependent configuration of a real human brain's Corpus Callosum to a context-independent representation whose vocabulary would expand as more individuals conditioned more nets for translation. In actual use, an input configuration not obviously available (within pre-determined error margins) in the context-free vocabulary would give rise to a combinatorial inter-representation that would last only as long as that time frame.

Thus, two primary devices are necessary: the first would produce an ultra-high-resolution scan of the electromagnetic state of the axons in the Corpus. It would sample these at a minimum frequency of 2Khz, sufficient to satisfy the Nyquist constraint for neurons that never fire faster than 1Khz. A second type of device, or perhaps the same one that scans the state, would be used to assert the state to one level or another on the other individual's Corpus. The one obvious detail is how one interleaves the scanning cycle with the assertion cycle. This will require experimentation, but I would guess the right approach is to use an assertional amplitude small enough to leave some of the pre-assertion state intact. Thus, the scanning cycle would be able to subtract the effect of the assertion cycle (using a model of the axon's behavior) and extract the configuration of that specific individual for processing. This makes the system conceptually like a Moore-type FSM: the extracted state of the Corpus will rely only on the state of that individual's brain, and not on his state and on the state asserted in the most recent assertion cycle. Only assertion cycles preceding the most recent one can have any effect on the extracted state.

Each fused individual would have a scanner and an asserter positioned wherever physics says they need to be. These devices would all be connected through the host translating computer. This done, the two individuals would very nearly fuse their consciousness. Whether this would allow a higher level of thought to be achieved or simply allow one person to truly understand another one is an important question, but it does seem obvious that this is a powerful idea.

The scenario thus far described somewhat implies that there are only two individuals. The consequences seem fairly clear. But the effect of linking more

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<sup>3</sup>The conditioning might consist of a carefully composed hyperfilm viewed in some sort of "virtual reality-ish" system. Preferably, all the normal sensory cues would be available, including smell. When the hyperfilm showed a picture of Hitler, it would be expected to evoke certain feelings in the individual. The assumption would be that whatever configuration is witnessed in the Corpus Callosum, it corresponds to the context-free representation one could consciously enumerate for an image of Hitler. This conditioning is a non-trivial task, obviously.

than two might be more complicated. The required computing power would increase geometrically. I assume there would be little more real danger of damage to the brains of the participants than there is with a one-on-one fusing.

So what does this fusing ability offer us? Would it let people only share the ideas that they already have in common, or would it be possible to relay new ideas? How complex could these ideas be? How long a training period would be necessary for the computer to derive a mapping for the Corpus of each individual? Would it be possible to “remember” things in another person’s past as though they were your own memories? Would it be possible to have conflicting memories? How could the computer interface be used to resolve such deadlocks?

Well, those are a lot of questions. Surely there are many more. Since the brain is so poorly understood at present, most of the answers to those questions must wait for experimental data or a theory that specifically accounts for mental phenomena. Society of Mind touches on many topics relevant to mind-fusing, but is not, perhaps, specific enough about the physical nature of the knowledge representations it posits. A theory complete enough to predict the results of connecting the mental states of more than one individual would be complete indeed.

In the larger society of, for example, a group of ten fused individuals (who thus truly lose their individuality), should each brain be thought of as an agent and the whole of all ten brains be thought of as a mind? Or do the brains still maintain separate minds that simply interact with a sort of hyper-language? It is my hope that reality will turn out to be a combination of the two. In the ideal situation, each individual would have transparent access to the memories of all the other individuals.

If one individual had a visceral repulsion (demonstrated by emotional state, which might direct the others to the memories of this individual at the root of the repulsion) to a given idea, this repulsion would spread in muted fashion to the others. If one of them had a strong conviction about something, this too would spread, as would his reasons for the conviction. Viewed in this way, it really does seem that the effect of the fusion is to produce a greater mind, with greater resources, than any individual could ever fit into one brain.

What happens if one of them falls asleep? He immediately becomes susceptible to a dangerous sympathetic reaction to the thoughts of the others. It can be assumed that the combined force of thought of the nine others would override the free-wheeling mental exploration of normal dreaming. Thus the dreaming would be directed by the conscious thoughts of the others. This is worrisome. It is, perhaps, more interesting to consider what would happen if the nine others were careful to quell their own thought and listen to the thoughts of the dreamer. That would be quite an experience.

What if they were all asleep? Would they dream one amazing dream, mixing the egos and ids of each individual? That seems the obvious solution. But, since the purpose of dreams is (by some interpretations) the resolution of internal conflicts, this massively intricate dream would surely not suit any of the individuals with any precision. Thus, it might cause them damage. My suggestion is that the host computer disconnect any individual who is not completely conscious.

What, indeed, would be the effect of cerebral stimulation on a person who has been rendered unconscious artificially (by drugs, a blow to the head, or whatever)? He would clearly contribute nothing to the thoughts of others, but could the thoughts of others affect his brain? I am afraid I really have no idea, since my knowledge of the mind does not extend to this unconscious state. It is a curious proposition, though. A world in which anyone thus rendered unconscious could be indoctrinated in any way desired would be dangerous indeed. Such a method of brainwashing would be of intense interest to any “security” organization. Indeed, most of the ideas I have presented in this essay probably intrigue the NSA and the CIA to a virtually unparalleled degree. If these ideas are ever realized, the world will be a more dangerous place.

One of the subsidiary possibilities of cerebral scanning is the ability to record part of the mental state on permanent media. This recording could be replayed at any time to anyone to recreate an event. This method of virtual reality would be without equal. Indeed, it was explored in the movie Brainstorm with reasonable success (in my opinion...). The best method of recreating the original event in another’s mind might involve a combination of cerebral stimulation and actual visual/aural playback, but this area surely requires extensive experimentation.

I have presented many ideas in this essay, and probably raised more questions than I have addressed (note that I did not say *answered*). I sincerely hope the technology to implement this concept is developed as soon as possible, in spite of the dangers. It is a less dangerous panacea-nemesis technology than either nanotechnology or genetic engineering. I think it could have a truly profound impact on human existence.