

We, Borg

Speculations on Hive Minds as a Posthuman State

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The designers of our species set out to produce a being that might be capable of an order of mentality higher than their own. The only possibility of doing so lay in planning a great increase in brain organisation. But they knew that the brain of an individual human being could not safely be allowed to exceed a certain weight. They therefore sought to produce the new order of mentality in a system of distinct and specialised brains held in "telepathic" unity by means of ethereal radiation. Material brains were to be capable of becoming on some occasions mere nodes in a system of radiation which itself should then constitute the physical basis of a single mind.

Olaf Stapledon, Last and First Men

Hive minds where the individual is subsumed into a collective consciousness has been a recurring idea in science fiction since Olaf Stapledon's influential novels *Last and First Men* (1931) and *Star Maker* (1937), although the concept in some sense had been suggested by *Leviathan* of Thomas Hobbes (1651). They have often in western science fiction been used as an allegory for communism or the anonymity of industrial civilisation, and have usually been portrayed in a terrifying light (Nicholls 1982). The latest such portrayal is the Borg in *Star Trek: the Next Generation*: a race of bionically augmented humanoids linked together into a collective mind, striving to assimilate every other intelligent species into the Collective.

Due to the popularity of the show several new words for hive minds have been coined (Morrow 1996):

Borganism:

1) An organization of formerly autonomous beings who have merged their individual wills to create one, collectively conscious being; 2) The social and political theory that advocates the creation of borganisms.

Borganise:

To form a borganism, to organise its structure.

I will in the following call the beings making up the borganism **units** (calling them individuals would be erroneous since they by definition lack individuality, and the borganism is clearly divisible, hence it cannot be called an individual either). The word borganism is especially suitable since I will look at hive minds from a cybernetic point of view (cybernetics -> cyborg -> borg).

This essay seeks to look into the psychology and sociology of borganisms, and to discuss borganisms as a possible posthuman state.

Borganisms in Nature

Borganisms might at first appear to be fanciful ideas, more grounded in science fiction and human desires/fears than in practical reality. But in nature there already exists several systems that suggests otherwise. The most common example used is the hives of social insects, where all individuals work for the common good with little regard for themselves. Although it has been argued that hives lack collective minds (Nicholls 1982) it should be noted that all such species communicate with chemical signals, and at least in the case of ants chemical trails can be seen as collective cognitive maps distributed in the environment (Chiavlo & Millonas 1995). There may exist degrees of borganisation, and they are tied to how closely the units communicate.

Another natural system of interest is the structure of multicellular organisms. The transition from single-celled life to multicellular life can be seen as borganisation. The chemical "minds" of cells are closely connected, and in some cases cells have gap-junctions connecting their cytoplasm or even merge to form a cyncyticum. In a multicellular organism the cells are differentiated into different tissues with different functions, which

sometimes include the planned death of cells (such as in the case of the formation of the protective outer layer of skin, the stratum corneum). Differentiation is mediated through chemical signals from other cells which affect the genetic expression of proteins and continued cell behaviour. This examples shows that a borganism can have a complex internal structure. All units do not need to be equal, and specialisation and hierarchical control is a possibility.

The third example of a borganism-like system in nature is the human brain. It consists of several parts able to act independently but closely tied together, so closely that normally these divisions go unnoticed. In some cases the system is disturbed and the potential independence of the parts can become apparent. One example is split brain patients whose hemispheres have been disconnected; most of the time this does not cause any noticeable change, but under some circumstances the two sides come into conflict or interfere with each other. Another example is the dissociative states that can occur during hypnosis or traumatic situations where the mind is divided into two or more parts having different access to sensory information and motor control (Hilgard 1977, Putnam 1989). The brain shows that the borganism might not even need to be aware of the units making it up, it can exist on a higher level, perhaps as a metasystem (Turchin & Joslyn 1993).

Communication and Structure in Borganisms

Many other triumphs of eugenical experiment we observed up and down the worlds. The general level of individual intelligence was, of course, raised far beyond the range of Homo Sapiens. But also that superintelligence which can be attained only by a psychically unified community was greatly developed on the highest practicable plane, that of the conscious individuality of a whole world. This, of course, was impossible until the social cohesion of individuals within the world-community has become as closeknit as the integration of the elements of a nervous system.

Olaf Stapledon, Star Maker

Communication is central to borganisation. By definition the units making up a borganism will be in close mental contact; the bandwidth and structure of this contact will determine much of the properties of the borganism.

It may be hard to tell when a group of individuals becomes a borganism; the psychology of a group can be significantly different from the psychology of the individuals, and even among humans individuality can be subsumed by group identity under some conditions. However, so far intra-group communication has been mainly verbal, kinetic and possibly chemical (pheromones). As the bandwidth increases new phenomena will likely appear and the group as an organism begins to take on its own life.

The communication between the units of a borganism can be characterised by its bandwidth and topology.

Bandwidth

Bandwidth denotes the amount of information exchanged between units and to which mental depth it occurs; speech is a low bandwidth communication only reaching a superficial mental level while a direct mental link giving insight in the mental imagery of the other part would be a high bandwidth communication. The extreme case is total connection where the bandwidth is so high that all units form a single neural network. What is uncertain at present is how high bandwidth is needed to create a true borganism. This may be a matter of degree rather than a distinct transition between several individuals and one borganism.

Starting from a low bandwidth we have a group of individuals communicating and acting on mutual goals. As the bandwidth is increased they can not only communicate intentions but their deeper causes; at higher bandwidths the mental chains leading to decisions become communicable and hence shareable. This may allow collaborative refinement of goals and plans in a much more efficient way than low-bandwidth discussion and the borders between individuals gradually fade away. Note that the units still can be specialised and have different memories, values and personalities.

Group psychology has studied under what conditions groups become more (or less) productive than individuals. In general it depends on the nature of the task and group. In problem solving tasks groups frequently develops better solutions than individuals (Hellriegel et al 1989), since there are more opportunities

for error- correction, idea generation, scenario testing and a higher likelihood that the skills and knowledge needed to solve a complex problem are available. This is especially true for tasks which can be subdivided easily.

Groups do not perform better than their most gifted individual on tasks which cannot be subdivided if the task is simple and the solution immediately becomes obvious to everyone once it is proposed (Baron & Byrne 1991). In many cases of human psychology social processes can interfere with this and decrease the performance; this might be possible to circumvent in a borganism. For example, in human groups the gifted individual often voluntarily stands back in order not to dominate the discussions; in a borganism there is less concern for the individual (both positive and negative), which suggests that this tendency will be weakened in favour of helping the group. The above observations of human problem solving suggests that borganisms should divide problems into manageable chunks which are handled by small subnetworks (possibly temporary) which in turn communicate with each other, at least in the case of divisible problems. In less easily divided problems it appears likely that a high bandwidth connection between the participating units is desirable, turning them into a more homogenous group.

So far I have assumed the group is interacting in a fairly homogenous manner, akin to a meeting. It is also possible to differentiate between a planning part of the borganism and an executive part which implements the plans while remaining in contact with the planning part. This suggests two densely connected clusters of units linked by a somewhat lower bandwidth link.

It appears likely that for a borganism which encounters different kinds of problems in daily life it is advantageous to modify its internal topology and bandwidth. There are of course technological and physical limitations to this, as well as a control problem: what subsystem should organise the topology?

One possibility was suggested in *Star Trek: First Contact*: the "Borg Queen", a female unit explained her function as "I bring order into chaos". This could be interpreted as her having an organising role unlike the other fairly identical units; other replies suggested that she was instantiated on other, perhaps all, borg ships. A borganism may consist of two different kinds of units, one basic general purpose unit that makes up most of the population, implementing the collective will, and one or a few organising units optimising the internal structure (possibly acting as arbitrators in internal conflicts or a supervisory B-brain (see Minsky 1988).

However, it is not certain there is a need for special units. If individual units can influence their topology and bandwidth, it is not unreasonable to think that a regulatory system could be implemented locally, for example by a market-based approach (Miller & Drexler 1988). It is important to realise that borganisms may consist of many different kinds of units both physically and mentally; while most descriptions have concentrated on homogenous or stratified structures borganisms with wildly diverse units, possibly as different as humans, AI systems and non-intelligent software agents, are a possibility.

Topology

The topology can be varied endlessly. A simple solution is total interconnectivity where every unit is connected to every other. Total interconnectivity is usually inefficient since the total bandwidth (and its overhead) grows as N^2 (where N is the number of units); in most cases there is little need for every unit to constantly communicate with every other and most of the bandwidth is wasted. If time or attention has to be taken from work to keep up to date with what other units are doing there will even be an optimum size of the borganism where the total amount of work done is maximal, above it the overhead of communication removes any advantage in adding more units.

Other interesting topologies are bus structures where units needing to communicate do so through a high bandwidth medium (for example broadcast signals or infrared links to a computer network), hierarchical topologies where supervisory or logistic units acts as intermediaries for the communication (this places high demands on their ability to manage high bandwidths; the top level can easily become a bottleneck) and hypercube topologies where the units form a multidimensional cube and each unit communicates with $\log_2(N)$ others; the maximal distance between any two units is $\log_2(N)$ and the total bandwidth grows as $N\log_2(N)$.

As can be seen, knowledge from designing multiprocessor systems can be applied to borganisms. In both cases the problem is distributing information in a system consisting of many subunits, and finding problems and

ways of solving them that work well in parallel.

To accommodate a changeable topology the network must be as flexible as possible. Most likely a virtual network is the simplest solution: the mental topology is implemented as a layer on top of another network, for example a fast packet-switched network where each unit is linked to the nearest node, or an internet of different networks.

One interesting architecture of a borganism is a hierarchy of meta- individuals. Individuals form meta-individuals due to high bandwidth connections and well coordinated mental processes. These meta-individuals form higher level individuals, and so on until a top level is reached. This suggests a hierarchical network topology where higher levels mainly exchange high-level information keeping the necessary bandwidth low by a high level of abstraction. A similar structure has been suggested by Marvin Minsky for the human mind, where "agents" (simple independent subsystems with their own goals) interact to form more complex behaviours which can be grouped into higher level agents (Minsky 1988).

This scenario is similar to the hierarchy of minds in Stapledon's *Star Maker*: advanced cultures form planetary borganisms where each individual is at the same time a part of the planetary mind and an independent individual. The planetary minds in turn form galactic minds in the same way, which in turn participates in the universal ultimate mind.

It is worth noting this model doesn't imply that each unit lacks individuality; Stapledon quite clearly suggests that they can remain individuals but at the same time participate in the borganism. One possibility is the ability to link into the borganism at will, another is a permanent linkup which leaves some mental levels individual while others collective.

The Psychology of Borganisms

So perfectly organised was the life of the minded swarm that all routine activities of industry and agriculture had become, from the point of view of the swarm's mind, unconscious, like the digestive processes of a human being. The little insectoid units themselves carried on these consciously, though without understanding their significance; but the mind of the swarm had lost the power of attending to them. Its concern was almost wholly with such activities as called for unified conscious control, in fact with practical and theoretical invention of all kinds and with physical and mental exploration.

Olaf Stapledon, Star Maker

How does a borganism recruit units? There are three possible answers: the individual must willingly give up some of its individuality in exchange for the positive effects of being part of the borganism (extended mental capacity, transhuman support etc), the individual is involuntarily borganised, or the individual is created as a part of the borganism.

Being a part of a borganism may or may not be reversible depending of how much the individual unit is integrated into the collective mind. If units are individuals which are linked together into a relatively low-bandwidth mental network for enhanced communication and metasystem formation the process may be reversible (although the former units may have a hard time understanding or remembering their thoughts as borganism). More intimate forms of communication may however necessitate a permanent link to the borganism since the unit is dependent on other units for many mental processes. Since it is likely a borganism will need a significant amount of mental coordination to function well having units leave or join often may be disadvantageous.

Unwilling units may not be desirable, both for the above reasons and due to the risk of memetic infections (see the section about borganic weaknesses). If units remain relatively unchanged when they are integrated into the collective, unwilling units are likely to be highly disturbing and more trouble than the extra mental capacity is worth. However, if the borganism doesn't care for the individual skills and memes of the units they can perhaps be "mentally reformatted", turned into standardised drones a la the Borg of Star Trek.

A recruitment method which circumvents the problems of both the other methods is to build/grow new units to fit the borganism. This could range from having units grow up linked to the borganism (which would likely

make their minds much better adapted to a borganic existence) to the copying of units. If units grow up in the borganism it is very likely they will adapt well to it, likely to a much larger extent than units introduced from the outside.

With advanced cloning techniques and a way to imprint suitable neural information it does not appear entirely unlikely that individuals could create more or less similar clones of themselves. Since these copies would be very similar, it is likely they will fit into the borganism well if the original does. It is even easier if uploading is possible: the borganism consists of infomorph entities which are interlinked much more strongly than would be possible if the units were entirely physical; the physical presence of the borganism could be handled by telepresence. Copying might enable a single individual to develop into a borganism, where all units (at least originally) share his or her values, goals and personality, making a good foundation to build a metaorganism on (assuming the basic personality is compatible with borganisation; some people might not get along with themselves).

Emotion

One obvious trait of the Borgs of *Star Trek* is their total emotionlessness; even in extreme situations they behave robotically. Most likely this was intended to dehumanise them further, but there is a good reason to expect that borganisms may tend to *appear* emotionless. In humans mood is conveyed through intonations, body language and especially facial expression. This transmission is important since without functional emotional communication many humans have a hard time functioning socially. But in a borganism emotions need not be expressed through body language and expression, since they can be expressed much more clearly through the intranet communication. There is no point for an unit to smile if it is amused (or the borganism as a whole is amused) since any other unit would be able to know exactly what mood it is in. So it is likely borganisms (unless they try to avoid it) would appear emotionless to individual humans despite having a rich inner life.

Self-Sacrifice

It sometimes occurs that parents sacrifice themselves for their children, or siblings for each other. There are sound sociobiological reasons for this which serve to ensure genetic survival, and throughout history individuals have sacrificed themselves to ensure the survival of their memes in an analogous fashion (Dawkins 1976). A borganism is a memetic organism, and it might be possible for units to sacrifice themselves for the borganism. This regularly occurs in *Star Trek* and real insect colonies. If all units are roughly identical there is no great loss (except in resources) to sacrifice one from the perspective of the borganism *and* the unit, which ensures the survival of similar units and its shared memes. If the connections between units are powerful enough or the units are infomorphs it may even be possible to make mental backups, making self-sacrifice relatively cheap. More individual units of course have more to lose, and it is less likely the borganism can compel them to sacrifice themselves (still, this is largely dependent on the memes dominant in the borganism and units).

Interaction

How would a borganism interact with other borganisms and individuals? It is important to realise that as a metaorganism borganisms may not even perceive individuals as anything than independent units, with roughly the same value (which may be high or low). To a borganism the other "real" inhabitants of the world may be other borganisms, the independent units are simply not "real" beings. This seems to be the classic view of how borganisms would see the world, and fits in quite well with the villain stereotype. However, there is no particular reason for why borganisms would be unable to appreciate the individual existence of non-borganisms.

Being communication-based entities, borganisms may have an easier time communicating with each other than individuals have. If one ignores technical problems of compatibility and protocol, it seems quite possible for borganisms to interlink in order to communicate. This would correspond to an extremely high bandwidth channel, enabling fast transmission of very complex concepts. There is of course the matter of avoiding total merge and security, but this could perhaps be dealt with by using some units as a "firewall".

Implementation of Borganisation

I want to be assimilated. I want to be borg. Machines will not destroy humans; humans and machine will become one. *Crist Clark*

Many descriptions of borganisms have assumed telepathy, but as Olaf Stapledon pointed out in 1937 radio could do just as well. Implementing a high-bandwidth mobile information network is a hot research topic today, linked to research into wearable computing, mobile offices and ubiquitous computing.

How large bandwidth is needed? We can estimate a lower bound from the bandwidth of speech and body language, which appears to be on the order of 10-100 bits/s. A highest upper bound would be total interconnection at the same signal density as the human mind, or roughly 10^{18} bits/s, quite an extreme range. However, the two human hemispheres communicate closely through the corpus callosum normally with no discernible differences; this connection has a theoretical bandwidth on the order of 10^{10} bits/s, which could be seen as a likely bandwidth needed for a deep connection between different units making them truly parts of the same mind.

It seems likely that for any high bandwidth borganism neural interfaces are necessary, since there are no channels into the mind with enough extra bandwidth. Hence an artificial borganism interface is needed. Of course, it may turn out that smaller bandwidths does accommodate the formation of borganisms (as mentioned above, the *conscious* bandwidth appears to be quite small, on the order of 100 bits/s according to some researchers).

Of course, a simple solution would be to keep the minds of the units in a computational matrix outside the bodies, which are controlled remotely. This would require a bandwidth similar to the spinal cord + brain nerves, on the order of 10^{10} bits/s per body or so. It may even be possible to let the bodies largely run themselves using lower level systems of the brain and spinal cord. Since a significant amount of information is simply abstracted away before reaching the conscious level and higher brain functions the necessary bandwidth would be even smaller, and hence easier to send.

Designing a mobile linkup to the borganism network is nontrivial due to the estimated demands. Current mobile networks (radio, IR) reach around 100 Kbit/s-10 Mbit/s over short ranges <50 meters (Weiser 1991, 1996) which suggests that we need three orders of magnitude broader bandwidth to achieve the necessary 10^{10} bits/s for high bandwidth borganisation. This does not appear impossible in principle: visible light lasers could enable this bandwidth over line-of-sight distances, and neural activity is normally quite sparse and likely possible to compress (roughly 5% of a set of neurons are active at any given time; this suggests that the signals can be compressed by one to two orders of magnitude). Other aspects of the borganism network structure are addressed by current work in ubiquitous and mobile computing, such as flexible switching between transceivers, error correction, energy demands and network protocols. In principle a high bandwidth neural interface seems to be doable using near future technology.

A likely structure would consist of a high-bandwidth non-mobile digital network ("the backbone") which acts as the central switching system for the present units. They can either be in contact with it, enabling very high bandwidth communication, or mobile, in which case they communicate with it using radio, IR or visible laser signals (it is amusing to note that the Borg in *Star Trek* often have lasers playing over their surroundings). The signals have a short range, and need only reach the nearest transceiver. Units outside the "hive" will not be able to communicate with the borganism with as high bandwidth, and may have to settle for radio signals. It seems likely that units "on their own" must deal with situations that occur more as individuals than as parts of the borganism.

Inside the borganism network, signals are dynamically routed between units (and other augmentative hard- and software). Low-level protocols implement packet-switching and virtual connections, whose structure and organization is regulated by an "arbitration layer" which could be seen as the pre-conscious part of the borganism's mind. This arbitration layer could be implemented (as discussed above) using coordinator units, market based systems, other approaches or mixed systems; the arbitration layer makes sure the virtual network structure is optimal for the tasks at hand, and organizes the units into meaningful teams and groups. These teams and groups form the true mind of the borganism, which gathers information, solves problems and implements solutions.

Weaknesses of Borganisms

Despite their likely high mental and practical capacity borganisms have noticeable weaknesses, just as individual organisms do.

Many of the problems of borganisms are emergent properties of the system, not inherent in the units themselves.

Memetic Infection

One of the most worrying weaknesses is the spread of virulent information patterns such as memes. Memes thrive in environments with intense communication (Bjarneskans et al. 1997), and would likely spread extremely quickly inside a borganism, infecting both collective and unit schemata. Having a working system for memetic defence appears to be vital for the well-being of a borganism, especially in the face of memes similar to computer viruses (in the cybernetic environment of a borganism there is little difference). It is not unlikely that a borganism has to retain a high degree of mental hygiene in order not to succumb to selfish mental replicators.

Still, it is unlikely that external or internal memetic defences will be perfect, especially since the borganism itself may accidentally create destabilizing memes during normal thinking and internal communication. The evolution of parasites appears to be ubiquitous in life-like (eco)systems, and the more interconnected the ecosystem is, the greater is the complexity of coevolution and hyperparasitism (Kelly 1994). This suggests that borganisms might generally not be able to avoid a certain level of internal selfish replicators, and that the best strategy in dealing with them is to integrate symbiotic replicators as a kind of immune system rather than attempt to fruitlessly eradicate them (Moravec 1988).

Groupthink

Groupthink is a common problem in human groups: the group becomes divorced from reality due to its internal consensus (which may even be illusory); it fails to question its own assumptions and to take unwelcome aspects of reality into account. If the borganism has to keep its units in line, it is likely it will directly or indirectly counteract dissent, which may promote groupthink. Often the best way of avoiding groupthink is to allow dissenting minorities to present their view. On the other hand, borganisms with sufficiently high bandwidth may be *less* susceptible to groupthink than human groups. If the units can present not only their views but the mental processes which reached these views it may become easier to judge the relative merit of the different positions. They are no longer assertions about reality but rather different models which can be analysed using critical thinking, empirical testing or synthesis.

The Selfish Borg

A borganism is not just a distributed organism, it is also in some sense a social organisation. This means that the relationship between itself and its units can become a source of trouble. If memetic evolution and spread cannot be avoided (for example by having units whose minds can easily be reformatted), there is the risk that discontent or other disturbances can propagate among the units, destabilising the borganism.

For example, selfish units may be a problem. Assuming that the units retain some autonomy, it is not unreasonable to think that some might decide to profit on the expense of the borganism. In human groups this can be observed as the diffusion of responsibility (the more people involved in a task the less intensely they tend to work if their results cannot be traced back to them) and forms of social parasitism. If this strategy is successful it can quickly spread (due to the fast transmission of memes) leading to the weakening or dissolution of the borganism. Accountability of units may be a simple way of dealing with this, especially since the borganism network is likely ideal for keeping track of what everybody is doing (or not doing). Still, it is likely that selfish strategies can develop which are hard to detect.

Discussion

We are the Borg. Lower your shields, and surrender your ship. We will add your biological and technological distinctiveness to our own. Your culture will adapt to service ours. Resistance is futile.

Star Trek

Borganisms horrify some and attract others. They represent both the human fear of losing the self and the vision of total community. The Borg of *Star Trek* are depicted as inhuman and ruthless, while the "minded planets" of Stapledon are benevolent and spiritual. Hobbes suggests that a limited form of borganisation (the formation of societies with strong rulers) is necessary for individual survival and well-being.

Regardless of people's reactions to them, borganisms are one of the best explored forms of posthumanity. Unlike Jupiter brains or uploaded entities, we can at least have an inkling of what they are and how they can be brought about; there is no immense discontinuity between current humanity and borganisms.

Are borganisation a desirable state? The answer seems to depend on how much one values individuality and autonomy. If these are made central values borganisms are clearly not desirable, and to an extreme individualist it might even appear ethical to disrupt borganisms in order to "free" the units (Morrow 1996). The case is not as clear for voluntary borganisms where units both retain a sense of individuality and still belong to the borganism. In this case extreme individualists would likely argue that being part of a borganisation stunts personal development and freedom, even if it is voluntary (this also mirrors the libertarian debates about the rights of government versus the individual, and the legitimacy of the "social contract").

If one does not see individuality and autonomy as fundamental values there are fewer arguments against borganisms. There is a certain worry that borganisms will be inefficient social or memetic attractors; suboptimal evolutionary stable strategies (one possible attractor state in the Strong Convergence Hypothesis of Boström 1997), or that the goals of the borganism as a whole will in the long run become incompatible with the original goals of the units which joined together. There is some evidence for the later possibility: the goals of multicellular organisms and hives of insects call for the sacrifice of their units, and judging from the relative amount of biomass in multicellular/single celled and social/nonsocial insects the non-borganised lifeforms do quite well *from the perspective of the individual*, although borganisation clearly is not a disadvantage for the genes and may instead be very advantageous on the genetic level (Dawkins 1976). If this observation can be translated into the noosphere, it suggests that borganisms are advantageous for many strongly action-influencing memes and meme-complexes (a possible example would be religions or ideologies) which can override the personal self-interest of individuals. It is worth noting that in the biosphere the borganic analogues do not dominate either species-wise or in a numerical sense; single-celled and individual animals are still the norm. This suggests that even if borganisms are attractors and self-supporting, they may not be so advantageous or flexible that they out-compete all other lifestyles (especially since in an environment with borganisms there exists a memetic evolutionary advantage to exploit them for non-borganisms).

What are the biggest advantages of borganisms? They provide an "easy" way to create superhuman entities (it might even be argued that we have created simple low-bandwidth borganisms based on metasystems today: organisations and states), and there does not appear to exist any obvious barrier to their creation (although plenty of experimentation in group-interaction and -integration is clearly needed). Borganisms would be able to solve some large classes of problems and implement the solutions much more efficiently than collections of individuals, giving them a practical and economical advantage. There is also the long-standing human dream of total community which may make borganisms desirable to some for purely aesthetic or emotional reasons.

Regardless of one's view of borganisms it is clear that they provide a possible posthuman state, and that they are advantageous in some situations. This is usually enough to ensure that at least some borganisms will eventually be implemented by some group for some reason. Resistance is futile.

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