

Documents from the front line

This section, an ongoing feature of the journal, is intended to include material of a non-academic, practical and immediate nature, representing ongoing psycho-political process – including manifestos, course handouts, leaflets, petitions, round-robins and ephemera of all kinds. All contributions will be gratefully received.

AN IMMUNOLOGICAL APPROACH TO TERRORISM

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Is the war on terrorism, with its pre-emptive strikes, extrajudicial assassination, and imprisonment without charges, succeeding? On the one hand, we haven't been attacked since 9/11. On the other, things don't seem to be going that well in Iraq, Osama Bin Laden is still at large (or so we are told), and international terrorist cells seem alive and well. Is our strategy the best? Are there others that might be more effective?

If we are truly concerned with defending ourselves, perhaps we should emulate the oldest, most versatile and highly complex defensive network known, the human immune system. Eons of challenges have generated highly sophisticated components that interact with one another to identify threats, share information, regulate responses, and clean up the damage.

Popular accounts of the immune system often employ battle metaphors. Innate immunity uses phagocytes ('cell devourers') and 'Natural Killer' cells to eliminate molecules that the complement system 'identifies' as threats. Adaptive immunity

utilizes Major Histocompatibility Complex to 'expose' viruses that have infected cells. T and B cells 'recognize' and 'engage' the 'enemy,' either 'killing' it outright or 'alerting' other components of the immune system to do the job. No wonder we feel like we are 'fighting something off' when our immune systems become active.

The molecules of the immune system are hardly in battle, however. Their component atoms simply combine and recombine. Consequently, the dynamics of the immune system at the molecular level resemble serendipity rather than warfare. Molecules interact when compatible chemical interfaces 'attract' them to one other. Old combinations are transformed into new ones. In the balance between energy and matter, nothing is lost. The operant paradigm is less one of conflict than of relationship.

THE RELATIONAL PARADIGM

For example, B cells create antibodies, which epitomize relationship and transformation as they identify and engage

pathogens (a disparaging term from the Greek, meaning *suffering* or *disease*). And yet what are pathogens if not collections of molecules looking for other molecules with which to interact? It is of little consequence to the molecules themselves if their relationships unsettle us.

Antibodies are the matchmakers of the immune system. Shaped like a 'Y', one end mutates rapidly to find the right combination to interact with the pathogen. Once engaged, the other end attracts additional components of the immune system to neutralize the pathogen. Thus, antibodies bring pathogens into relationship with other elements of the immune system, with the result that both are transformed.

That's hardly a conflict/battle view of immunity. Pathogens do not 'intend' to 'destroy' the organism. B cells do not 'intend' to 'protect' the organism from 'pathogens.' Those words – our own projections onto their activities – are highly conditioned by the stake we have in the outcome. B cells simply do what they have evolved to do. It's all mechanical and automatic. As far as we know, B cells do not think at all. They simply interact.

SOCIETAL ANTIBODIES

While citizens of a country may form a body politic, their interactions are analogous to molecules. So, how might responses to terrorism modeled on molecular interactions operate? For one thing, they would be less adversarial than relational. They would also be oriented less toward destruction than toward transformation. Finally, survival would be a function of relationship.

A 'B-cell response' to terrorism would function at the level of ordinary citizens, where diversity is the societal counterpart of rapid mutation. The mediating role of antibodies would be reflected in our natural

inclinations to engage one another in dialogues about the foundations of civilized society – civil liberties, an independent judiciary, representation, a voice in government policy, equality, justice. As a result, both sides – those who are part of the society and those who are not – could increase their knowledge and understanding of each other. Like the chemical interactions between molecules, both would be transformed.

TERRORIST CELL TRANSFORMATION

This hardly sounds adversarial. But would it work? Would it protect the organism, i.e.: the nation or the community? Most likely. There is little debate about the advantages of communities where people know and interact with each other. But, what about actual terrorists?

Can an immunological approach really neutralize the threat? We have seen how rapid mutation, engagement, and relationship might work. But, what about the counterpart of natural killer cells, macrophages, and membrane attack complexes? Certainly, calling in the F-16s to bomb terrorists generates transformation. But, like hitting mercury with a hammer, it also spreads the disease.

The immune system has solved that problem. Cells deconstruct either by necrosis or apoptosis. In necrosis, their membranes are breached and their contents leak out into surrounding tissue. Unfortunately, in the case of a viral infection, this serves to spread the disease. Not a happy outcome. In death by apoptosis, however, the cell self-destructs by collapsing into itself. All within is nicely contained.

As a metaphor for fighting terrorism, necrosis is the equivalent of infiltrating and exploding a terrorist cell. Terrorists who are killed would very likely qualify as

martyrs. Those who escape may be even more committed to imposing brutality on others. Ordinary citizens who may have been sympathetic to their cause, but were reluctant to join, might become radicalized – infected, if you like. Either way, the very means utilized to neutralize the ‘disease’ serves to spread it.

Apoptosis, however, causes collapse from within. Nothing leaks out. Infections don’t spread. What would this look like in the fight against terrorism? Encounters between terrorists and those willing to engage them would mix ideas, ideals, and values. They would oscillate and resonate with one another.

Those who dialogue with the terrorists might begin to understand the frustration and alienation that drives them to operate outside the system. They might be moved to intervene on behalf of those who have no voice and no power. They might be willing to work toward more equitable distribution of resources. No matter what the outcome, the openness to another that dialogue requires is a powerful force for overcoming isolation and alienation.

That alone would help to neutralize the forces that give rise to terrorism. B-cell approaches to terrorism would bring those who have become so alienated that they perceive their only voice to be that of violence into contact with those who embrace the basic values of a free, democratic society. As society and terrorist engage each other, potentials for both to be transformed increase.

An immunological model would define societies least able to defend themselves as those that are the least differentiated and the most restrictive of their members’ contact with others. When different values and perspectives cannot be engaged in dialogue, the potential for transformation is lost.

SOCIETAL AUTOIMMUNE DISORDERS

Furthermore, governments that perceive their citizens to be the enemy operate like autoimmune disorders that lack the ability to discriminate their own cells from pathogens. Thus, they attack their own citizens in the name of self-defense. They undermine civil liberties because they perceive them to be a threat.

The McCarthy hearings of the 1950s are an excellent example of this kind of confusion. Likewise, the purges in Stalinist Russia and the Cultural Revolution in China. Today, anyone who downloads an aerial photo from the United States Geodesic Survey Internet site will be, in the words of Rep. Christopher Shays, Chairman of the House Subcommittee on National Security, ‘part of a government file.’ Thusly does the defense become the threat.

FIGHTING TERRORISM

Perhaps it would be naïve to expect societies and governments to adopt approaches employed by supposedly mindless molecules. Nevertheless, the complexity of the immune system, whose sole mission is survival, exceeds anything we’ve created. In fact, where health is concerned, it’s more conscious than we are. Furthermore, everything that we do, including writing and reading this editorial, is a function of molecular biology. Could that which generates all human thought and emotion serve as a paradigm for our behavior in the world?

From the psychological perspective, our relationships are quite analogous to molecular biology. We like encountering one another. We enjoy interacting, sharing ideas and emotions, and being transformed by other’s perspectives. We feel protected by friendship. Love increases our resilience.

Alfred Adler believed that security is a function not of power, but of *Gemeinschaftsgefühl*, or ‘community feeling.’ Carl Jung held that biology leaves its traces in the images that the mind constructs. If so, then humankind’s inherent desire for relationship may be a reflection of – among other things – molecular biology. Perhaps those of us who lose this desire are what we call ‘terrorists.’ If so, their attempts to force themselves upon us through violent means may be a bizarre attempt to regain the kind of relationship that the immune system exemplifies.

If we want to improve their relational health, we may have to be willing to initiate contacts, dialogues, and relationships. The responsibility for entering into relationships lies with those who can do it. For those who are willing to entertain such an approach to fighting terrorism, the molecular biology of the immune system serves as a paradigm to show us how.

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