

Chapter 4

“WE ARE THE ENEMY”

We have seen in the preceding chapters that veterans experience the world as full of risk and danger, particularly with regard to the toxins they were exposed to in the Gulf War. Veterans show a great concern for body boundaries and the permeability of these frontiers. Just as there is an anxiety about body frontiers, so too is there an anxiety about inner boundaries. In this section I will extend the notion of boundaries and look within the body at that component which is seen as the consummate barrier to threat and illness: the immune system. My interviews with Gulf veterans were dominated by their focus on the immune system and its role in GWS theories. GWS sufferers almost universally see their illness as being caused by a weakened immune system which is seen as the result of the vaccinations and other exposures. Situating the illness in discussions of the immune system provides a biomedical and inclusive model for their suffering.

That GWS is due to an immune system reaction or failure was established very early on: this idea was mentioned in more than a quarter of newspaper articles in the first two years of reporting. In a newspaper review of a Channel Four programme, a soldier is described whose “immune system has vanished. He lives in a room lagged with tin foil against the risk of infection with a blue plastic tube inserted into his nostrils” (Norman 1993). Others make a complicated link between allergies, the immune system and microbiology, such as in the following quotation from a *Today* article on 23 June 1993, “those who simply became allergic to the cocktail [of NAPS/immunizations] ... will have to wait months, perhaps years, before their immune system recovers. They will get every virus going.”

In the early parts of the twentieth century, the most important threats to health were considered to lie outside the body (Martin 1993). The body boundaries themselves were seen as the main defence and the focus was on preventing the entrance of germs into the body (Clark and Cumley 1953: 103). Martin (1993) reveals that attention to the threats which lie in the environment outside the body shifts to an emphasis on the defences within the body. As Shorter explains, since the “1960s immunology has become the queen bee of the medical sciences, in the way that pathology was in the nineteenth century the foundation of all further knowledge” (1992: 314). The concept of the immune system under assault and giving way under pressures of twentieth-century life is a key idea in understanding illness beliefs at the end of the twentieth century (Shorter 1992; Wessely 1997). This concern with the immune system can also be seen to draw on the fears of another late twentieth century disease affecting the immune system: AIDS. Explicit links were made in media reports between GWS and AIDS, central to this connection being the involvement of the immune system. We can see the way GWS was being talked about and framed was influenced by popular understandings of illness.

Boundaries and Borders

In my interviews there was widespread agreement that the immune system was something contained within our bodies that protects us from disease. Borders and boundaries permeate talk of the immune system, which is seen as a barrier to illness. For most people, it is this system which determines whether one is going to get ill or remain well. Such findings reflect Martin’s work. As she states, it “seems to follow from a robust notion of an internal system of protection that the system exists to ward off continual threats. People focus their attention on the well-being of the system rather than on creating an environment that is free from threat” (1994: 67). In my interviews, people frequently express the notion that the environment surrounding our bodies contains many dangers that cannot be eliminated. Staying healthy is primarily about maintaining a strong immune system, but for sufferers of GWS, their immune systems are damaged and, thus, this defensive boundary is compromised. They are left vulnerable.

The immune system took centre stage right at the beginning of my fieldwork. My very first contact with veterans was when I made a phone call to Ken, the head of one of the veterans’ associations. As we began speaking about GWS he said to me: “it’s all down to damage to the immune system because of vaccines. Like a house that has been

damaged, it will fall down." We can see that the immune system is perceived in terms of barriers that are strong and solid when well, keeping the person free from disease. However, when they are permeable and fragile, like those of Gulf veterans, they will allow the whole system to collapse. Harry suggests that the immune system is a:

Barrier towards disease, really like. I'm not saying it's a 100 per cent barrier toward disease, but I think if it's affected in any way you have more chance of becoming ill ... I think everybody's different. A lot of us are getting a lot of the same conditions coming through but at the same time some people are getting different conditions, I don't know, I think everyone is an individual.

Harry sees the immune system as a barrier, but one that even in healthy people is not completely infallible. This would explain why all people, even those with healthy immune systems, are vulnerable to disease. Harry emphasises the individual nature of the immune system and of the illness itself.

The protective effectiveness of Gulf veterans' immune systems differs from healthy individuals. When I asked Ed, the veteran discussed in the previous chapter, what the difference is between him and a healthy person, he responded:

Well, I mean, they are strong all the time, they are able to do physical exercise. Ummm, you know, where I would fall after like, well ... I can't run ... I get out of breath after five minutes, where a stronger person with a stronger immune system would be able to cope better than I would ... Well, they've got a solid wall there. They have got whatever in reserve to help them, back them up. They're more fitter and healthier ... But they have got a good solid defence there. And it can recognise the symptoms early to fight them. The brain knows, the body knows, "there's an infection coming here, let's fight it". Where ours is a lot slower or non-existent.

As Ed suggests, a healthy person has a strong perimeter that is able to resist threat. As a GWS sufferer, Ed imagines that his immune system is permeable and does not provide a solid defence, which makes him less able to cope with surrounding illnesses. A strong body is equated with a strong immune system. Ed also imagines that his immune system, along with other sufferers, is sluggish and unable to "recognise" illness effectively. Martin's (1993) history of the immune system shows that the interior lines of defence of the body are further elaborated in time. "Recognition' is fantastically honed and refined and the immune system 'tailors' highly specific responses that can be almost unimaginably various. Drawing on an immense genetically generated and constantly

changing arsenal of resources, the body can hardly rely on habit any longer" (1993: 72). The immune system is agile, constantly learning, remembering and responding to the world. In immunology the emphasis is on flexibility and adaptability (Martin 1994), but veterans suggest that their body was in the end unable to respond to the sheer demands of flexibility upon it.

Recognition is key to understanding the immune system. This subject will be explored in depth below. However, it is important to note that veterans understand vaccines as introducing information into the body so that the body is able to "remember" and provide protection when faced with the real threat. Veterans suggest that vaccines prompt the immune system to produce a barrier to that specific threat. Jeremy, a healthy Gulf veteran, suggests that a vaccine is a: "Prevention. The solution goes into your blood stream to help fight with the immune system. Helps to fight alongside your own immune system. If you do get the germ, the bug, you do have a barrier. Injection is a barrier." The immune system is a general protection, but can develop specific barriers through inoculation. Veterans, however, suggest that the body was overloaded and unable to respond to each specific education/vaccination in the Gulf, resulting in a breakdown of the general wall of defence.

GWS sufferers understand their illnesses as arising out of this weakened immune system. Their immune system is "down" and, thus, they are left defenceless and open to peril. They are vulnerable to the perpetual threat of infection and illness. Veterans say they continually suffer from colds, flu and coughs – the most common forms of illness. They suggest that unlike healthy people, they do not have a strong border to hold off germs and viruses which are present in the outside environment. As Ben says, "I was never susceptible to cold and flu before, but now I catch everything around. It's like everything, any germ that's around, 'come and get me!' I am a perfect host for them. Most of my medical history has been since 1991."

A common theme of veterans' narratives is that not only are they more vulnerable to illness, but when illness appears it takes over more completely and for a longer period. Whilst for "normal" people, germs and bugs are held at bay and only take hold rarely and briefly, GWS sufferers have no such defence. Another aspect of this inactive immune system, veterans explain, is that cuts and other skin conditions do not heal as they are supposed to. It is as though the skin, the body's visible meeting point with the outside environment is not coping with the encounter. Veterans constantly compare themselves and their systems to "normal" and healthy people, against whose theirs are inadequate. When I asked Paul what he imagines happening inside a healthy person's body when they get a cold he said:

I think the immune system will fight it, obviously. Or put up antibodies; is it antibodies? The cells fight. The white blood cells fight with the red, or something. Something is carried in the cells. [How this differs when a Gulf veteran gets a cold?] I think they haven't got the immune system to fight it off. That's the bottom line. Their health is collapsing. Some get colds for months.

A concern with the immune system and the permeability of body boundaries can be seen to draw on the fears of another late twentieth-century disease affecting the immune system: AIDS. Links are often made in the media and amongst veterans between GWS and AIDS. One early media report said of GWS: "It's like AIDS. It's not the AIDS that kills you, it is the collapse of the immune system" (Walker 1994). A number of veterans I spoke to make a connection between GWS and AIDS. Richard, a healthy Gulf veteran, said that people with GWS "look not dissimilar to those dying of AIDS". He suggests that they looked weak and emaciated and that their immune systems have turned on them. When I asked another veteran, Mick, what he felt was the illness most similar to GWS, he said, "To GWS? AIDS, I suppose would be the nearest thing to it. The way, how it effects your immune system. It eats away at it. These people look as though they've aged 40 odd years in the matter of a year."

In some cases the link between GWS and AIDS is made more direct and more sinister. A veteran, who I later met, was featured in a story in *The X Factor*, a magazine about "cover-ups, paranormal, mysteries and UFOs". The article discusses how one veteran claims that cytokines were injected into troops to defend against Nuclear, Biological and Chemical (NBC) attack, but there was not enough to go around. Consequently, he claims, "it was decided to include a second, untested component that duplicated the effect of the cytokines". The article continues to say "Parker claims that this second component was HIV genes ... the consequences of injecting HIV genes – which allegedly cause the AIDS virus – are not known. The worst possible scenario, some claim, is that allied troops may have been infected with the condition that allows for the development of AIDS" (1997: 542).

Theories of Causation and the Immune System

The immune system is central to the theories of causation of GWS, including severity of illness and infection rates. The illness involves a depleted immune system; the various specific illnesses and symptoms arise out of this deficiency. The immune system theory enables

veterans to make a coherent, inclusive system out of the incoherent. It provides explanations to a number of anomalies that are indicated by their critics, such as why it is that the majority of veterans remain unaffected.¹ When asked why they think some got ill and others did not, most veterans suggest that this was due to the pre-war strength of an individual's immune system.² As Cameron, an ill veteran, discusses, "It could be their immune system, in the first place, were a lot stronger than the guys that have developed the illness. The general health I think before they went out there. Not the state of mind, but a weaker physical, the immune system, things are going to attack you more."

Similarly, those who remain healthy make sense of their avoidance of illness in terms of their immune system. Healthy veterans say they either do not believe that there is such a thing as GWS or suggest that they were somehow different from those that became ill. The immune system is central to this difference. James, a healthy Gulf veteran says, "Maybe I had a tough immune system. I was tough and healthy, so it protected me." Again, immune system potency and bodily strength are synonymous.

This model also responds to another question upon which non-believers focus. Critics of GWS often point to the fact that the illness emerged many years after the end of the war, as evidence of the absence of a unique disease entity. Indeed, veterans are still coming forward. The theory that the immune system naturally degrades with age allows veterans an illness model which responds to such criticism and scepticism. This theory of the illness provides an explanation for why it is that the illness took years to emerge and continues to appear to this day. Furthermore, this theory follows on logically from discussions above, which establish that young veterans were more protected by their immune systems. The following discussion took place within a focus group of leaders and members of the association. Jack says,

In the past people have turned around to John and said, "OK, if there is a GWS why weren't all vets ill three years after the war. Why are more and more people coming forward?" So people ask John if GWS exists why are

1. It is important to note, however, that sufferers and their advocates commonly suggest that the majority of veterans are ill. They suggest that many will not come forward for fear of what might happen to them. I have also been told on many occasions that most veterans are ill, they simply do not admit it or recognise it in themselves.
2. Levels of exposure and/or location also play a role in theories of causation, as discussed in Chapter 1.

there not more coming forward? Gulf War illness affects the immune system. When we went to the Gulf we were young and our immune systems were immaculate. Obviously the older we get our immune system gets slightly weaker. So therefore all these illnesses and all these various things that we have been subjected to, whether its been NAPS tablets, whether it be oil well fires, whether it be depleted uranium, whether it be injections, all these things then as we get older our bodies then can't fight so that is why more and more people are becoming ill.

John adds to Jack's comments:

There is clearly a body burden on the troops. For some people it's greater than others. And I believe ... the younger ones at the time of the Gulf War when they came back didn't become as ill as the older ones. I know that's quite obvious to some people. You did have many, a lot of reservists at the age of 40 or 50 at the time of the Gulf War who became ill very quickly after the Gulf War. The next in line you have those who at the time were 30 years old, like myself, who became ill [in the] '93-'96 time period. And then after that the younger ones as they get older their immune system are breaking down because of the body burden that they are carrying because of the vaccines, the DU, or the chemical compounds that they've been exposed to, we don't know. I personally believe that the vaccines and medication we were given were the first insult to the immune system and anything else after that was secondary. And whether those people that were insulted at the time their immune system didn't recover in time to react against the organophosphate compounds that were in the air. Or indeed, DU. Maybe the younger people, their immune system did recover to give them protection. Maybe for younger people their immune system was strong enough to bounce back and protect them ... But, ah, it certainly seems to be a burden on the immune system that seems to have caused the problems. All our illnesses are auto-immune-type related or they seem to be.

Immune systems are understood by veterans to degrade naturally with age, but the above quotations reveal that there is a more complicated relationship between illness, exposures, immune systems and age. John suggests that young soldiers' stronger immune systems may have been able to respond more quickly to the initial "insult"³ of vaccinations and were thus prepared for the next set of exposures. Young soldiers' immune systems are more robust and are able to respond more quickly to the outside world, he explains. This resonates with Martin's (1994) suggestion that effectiveness of immune systems

3. Insult is an interesting choice of word as it invokes notions of offence, indignity and assault, but is also commonly used in biomedical discourses.

was based on the notion of flexibility and an ability to adapt to novel stimuli. Veterans suggest that the vaccines and other exposures somehow remain in one's body. The immune system if strong and young is able to hold it at bay, but once the immune system degrades the burden is too much and illnesses take hold. The body is in a constant reactive state, responding to the exposures contained in the body and the outside world. However, Jack suggests that there comes a point where the immune system degrades too much and the illness succeeds in taking control.

In some cases specific individuals were used to illustrate this age-related theory. Major Ian Hill⁴ was a Gulf War veteran who died at the age of 54 "of GWS"⁵ in March 2001. Very much in the public eye, Hill was a leading GWS campaigner and the founding member and chairman of the veterans' association. He is compared to the present chairman of the association, who took over the public face of the illness following Hill's decline. The present chairman is younger, and, thus, his illness appeared later. Although the importance of age in the onset of the illness was often cited, I found that the veterans did not strictly adhere to their own theory. There were many exceptions and informants would often contradict this theory in the same interview. One thing struck me over and over again as I was studying GWS: there seemed to be no laws, no patterns nor rules to the illness. Veterans are clearly trying to make sense of the chaos of the illness by creating patterns, regardless of whether or not they strictly believe or adhere to them.

Immune systems are not created equal. Some people's immune systems were able to cope with the vaccinations in the Gulf, and thus, were not later affected. The immune system is also seen as highly individualised, with different factors affecting its strength and ability to protect. Age and physical fitness are regarded as central to this understanding: older veterans are more susceptible to the exposures because their immune systems are innately weaker. This does not mean, however, that those who were young and fit are exempt. Instead, a linear model of the illness is presented. Older veterans are seen as more vulnerable and, thus, succumbed first to the illness. As Debbie, who was introduced in Chapter 1, stated:

If you look really closely to it, it's the age of them. The younger ones are slightly fitter at the moment. But as time goes on they're not. And really ill

4. Major Ian Hill was a Royal Army Medical Corps theatre nurse reservist. He was flown home after reacting badly to the cocktail of vaccines given to soldiers.
5. On his death certificate his death is reported as due to a blood clot, I was told by a variety of scientists.

ones that I've seen are quite a bit older than Mark. They've been in their 40s and that ... I think a lot of it is to do with your fitness. As soon as Mark stopped work he had problems ... as soon as he stopped work he got problems straight away. I think it gets you when you are at home ... And the ones that were in from the TA [Territorial Army] they weren't as fit as regular soldiers. All the TA are coming off the street, at the end of the day. I think that has a lot to do with it as well.

Thus, the threat is ever present. Nobody is safe from the illness in this theory, as those that were young and strong and remain disease free at present are still at risk. As we can see from these comments such discussions of the immune system are part of the way they see the social world. Such discussions often reflect a person's wider social beliefs. Debbie establishes here that she has a system of hierarchy where Territorial Army⁶ and old soldiers are weaker and more susceptible to illness. Debbie later expanded on this and made it very clear that she had disdain for TA soldiers and saw them as inferior to regular soldiers like herself and her husband. In her mind, this is linked to their inferior immune systems. Debbie also places unemployment into her theory of the illness. The words people use to describe the world of the body also orient their understanding of social interaction and their overarching views of the world (Claeson et al. 1996).

At times the onset of illness, with its link to a degraded immune system, is associated with the social experience of leaving the forces. There is a sense that the lifestyle in the army with its focus on physical strength and health kept the inevitable threat of illness at bay. As George suggests:

Guys that were just leaving the service, because obviously when you are in the service you are really fit and then within a couple of years of them coming out, the symptoms all kicked in because their fitness level dropped ... Obviously, again, it must be, there must be a connection between the immune system and physical fitness. Once your fitness level drops off a bit, all this kicks in. I think with Chronic Fatigue, with athletics you see even in civilian life – once they stop their training as such, then some of those have become ill. Some yachtswoman, I can't remember her name now, but within a year of her finishing her around the world trip or something, she got Chronic Fatigue.

6. The Territorial Army is a part-time volunteer reserve force. These soldiers often have other careers and are required to commit to 30 days: usually one evening a week, one weekend a month and two weeks a year.

I would suggest that this reflects the veteran's experience of their life unravelling when they left the service. Whilst they remained in the forces their lives and bodies were organised and contained by the military – their immune system in control – but once they leave the structure of their military life their bodies rebel. This theory of the illness reflects scientific finding which suggests that those who left the forces are more likely to develop the illness.

Martin suggests that we are seeing the creation of new norms which are based on a healthy immune system, in which some individuals have healthier ones than others (1993: 71); certain categories of people are found wanting (Martin 1993). Martin suggests these categories would most likely be women and people of colour, but in my largely male and white informant group, I found that it was the old and unfit whose bodies failed when challenged. Indeed, I suggest that the ideas contained in their narratives reflect their views that as they age, unfit men who have left the military and ultimately the work force, like their immune system, do not fit the norm.

Veterans expand on the individuality of immune systems by employing genetic theories: one's immune system's "natural" strength is determined by genetic factors. When asked why some veterans of the Gulf War were able to remain healthy, one healthy veteran, Nigel, responded:

Genes affecting the immune system. Why did some people survive the Black Death and some didn't? It's a lottery, isn't it? There was a programme recently about the Black Death and they looked at genetics in one village. So yeah, I think some people's immune systems are more vulnerable than others.⁷

By placing their understanding of their illness in discussions of genetics and the immune system, they are using the most potent medical language available. By focusing on the genetic element of immune systems, veterans also seem to suggest that there is little one can do to take control of one's health. They believe one must be healthy to stay healthy and suggest that once the immune system is damaged nothing can be done. The following quotation by Frank is a typical response to the question, "is there anything you can do to boost your immune system?"

7. Interestingly, a number of people used this television programme in their explanations of immune systems and genetics.

Um, keeping healthy? But you need to be healthy to start with to be healthy. When I was a PTI⁸ rarely did I get coughs or colds. I was outside all the time. Anything wooshed through my body that fast came out again. I don't know if you can actually improve your health. I think you could, but you would have to be healthy to start with.

Although some spoke about things they did to boost their immune system, they were the exception. The majority of my informants responded negatively when I asked them if they did anything to keep themselves healthy or to boost their immune system. Many said that the best way to boost one's immune system was to be physically fit, but as they were so ill this was impossible for them. The veterans that said that they did do things to boost their immune system focused mainly on diet (vitamins, gluten-free food) and keeping the level of toxins they were exposed to, to a minimum. Interestingly, the one person who focused on boosting his immune system (and had changed his entire lifestyle to do so) was one of only three people who were ill but did not associate their illness with the Gulf. It appears that to have GWS means having an irrevocably damaged immune system.

On Standby

In addition to constant colds and flu, veterans also suffer from more serious ailments, which are also explained by way of the immune system. All illness is due to immune system failure and, thus, all of their conditions can be linked to GWS by way of its effect on the immune system. Lee is a GWS sufferer who is awaiting a diagnosis of Multiple Sclerosis (MS). I asked him if he thought his MS was linked to GWS.

Yeah, undoubtedly. Because MS only happens when your auto-immune system has been damaged. This much I've read from all the MS literature. I know for a fact that if you put all those kinds of things into us ... your immune system will be damaged. That seems to be an accepted fact from America now. I don't have any family case history of MS. Now, the MS specialist that I've seen has said it's not genetic, but if you've got it, a cousin, an aunt, an uncle, whatever, somebody in your family, even if it's from a couple of generations would have had it. Well, my parents remember their great-grandparents, which is going back to Victorian era, almost. My parents

8. Physical Training Instructor. Many of the veterans I spoke to said that they were or had hoped to be PTIs. Amongst privates PTIs are respected as they are seen as the fittest in the forces.

were born before the Second World War in something like '38 and '39 ... So if they can remember their parents and their grandparents and their big, extended range and they know that there has never, ever been, on both sides of the family, any history of MS. So all of a sudden I'm looking at the facts. Now, I've had all these different things put into me. My immune system has been damaged. Well, how did that happen? I know I've got MS, there is no history of MS, so it's a direct result. It's indistinguishable ... It's a whole hodge podge of recipes all mixed together and cooked ... I think MS is intricately woven into GWS because it's immunological. It's motoneurone type damage, isn't it? I'm 36 as well. This came on coming up for two years ago, now. So, its, they say people start getting MS from 30 plus, but its unusual under 40. You do get the odd young person with it, but it's rare. You know, so that's another thing. Gulf War veteran, yet another first, you know?

For Lee, MS is a threat, but he only succumbed to it as a result of his damaged immune system. It is as though illnesses are incessant, but one is aware of them only when one's immune system lets one down. Veterans often talk about illnesses "lying dormant", under control until one's immune system is weakened as theirs was. It is as if one is always potentially ill, but illness only takes hold if the immune system is compromised. Contained in Lee's narrative is also his attempt to make sense of that which seems inexplicable. Getting MS simply does not *make sense* to him, particularly when he looks at his family history. Many of my informants suggest that the particular illness they suffer from was not present in their family, and, thus, another, more mysterious cause must be implicated. Furthermore, Lee stresses that his illness is "rare" and "unusual" in a man of his age, suggesting that there must be a peculiar element at work. Indeed, many veterans stress the unusualness of their illness, illness combinations, and/or age of onset. GWS provides them with a theory of causation that makes sense of the extraordinariness of their illness experience as well as it allows them to draw in disparate experiences and symptoms.

Non-believers point to the fact that symptoms emerged at different times depending on the individual and that there was no pattern in terms of symptoms. It is the individual nature of each person's immune system that is key to the explanation for this suggested irregularity. Narratives of GWS often stress the individual nature of all bodies and illness. One may have a propensity to cancer whilst another may have a propensity to MS. The immune system mediates this: once the immune system is weakened it leaves the individual vulnerable to their specific threats. So what determines who gets what? Just as there is a genetic element to the immune system, genetics also plays a key role with regard to determining propensity of diseases.

Many veterans suggest that the Gulf War and its exposures was a sort of trigger for dormant illnesses lying in wait within their bodies. Thus, there is anxiety about that which lies without the body, but dangers also lie within. During an observed assessment at the GVMAP, a patient explained that he had come because he had recently been diagnosed with a back condition. He said, "I have theory of my own. Why I have been referred here is my slight concern that what may have triggered it is service in the Gulf. From what I understand of the condition it is triggered by something. A colleague of mine had the same thing and it had been triggered by food poisoning." The doctor responded to his concerns by saying:

Your longevity will not be decreased because of being in Gulf. There is no increase in mortality due to disease; there is a slight increase because of violent death and suicide ... Tell your wife to be absolutely reassured ... If the Gulf had been a trigger, one would expect the illness to have appeared much sooner ... Had you not gone to the Gulf you would still have got it. Food poisoning is not a trigger, but the individual will say that it is that – it is what is linked in his mind. Do you feel reassured?⁹

The veteran responded that he did.

One veteran, Frank, suggests GWS is the result of an entirely new entity. The person and their immune system has never seen it before and thus, is unable to fight it, drawing on ideas of recognition.

I think it was something out there that hasn't actually gave us all these complaints, but hit the triggers. You know, like they say everybody is born with cancer and ... something happens and that triggers it all off. One of the doctors that says that to me. I ask how did I get this ulcerative colitis. They say, "you were probably born with it and something triggered it." [...] The linear IgA thing, what's triggered that? It's maybe something out there. Because nobody goes there. Nobody actually goes out and tests. The thing with the Ebola virus, they know it's out there. They don't know the source for it. They don't know where it starts from, they know it's a virus. My theory is there's something out there which is bad news, nobody's ever seen before. The way that the Bedouins and Arab people and Islamic law, what they do as soon as somebody dies they're buried. You've got a couple of hours and they are down under. So there is no autopsy. It could be that they are immune. Like ulcerative colitis is unheard of in the Middle East. So that is my theory. So I went to the MAP, they are looking for known diseases. Something they can say, "oh yes". But if it's something they've never seen before that is wholly brand new it's going to by-pass them. They will not say,

9. This is not a direct quote as it is based on notes I took during the assessment.

“oh, what’s that”, because that’s not what they are looking for ... I would say it [GWS] was a variety of illnesses that people would have got anyway that have been triggered by something out there.

Frank sees the illness as something entirely unique, an entity unknown to standard medical science. For him, the illness occurred because they were in unknown and uncharted territory. He believes there are areas in the world that are risky areas. Frank later told me that he knows it was the Gulf that made him ill because it was “the only place where [he’d] been somewhere new”. He said that after the Gulf he had only been in Germany and the UK; the only other “foreign” country he had been to was Canada. Thus, “foreignness” is a hazard in his view. He further suggests that the desert, a place where “nobody goes” is an extremely dangerous place. He reported seeing “weird” things in the desert – strange animals and plants – thereby emphasising the abnormality of the region. The body – and its wall of defence, the immune system – is unable to adapt to such new demands. The illness itself evades doctors. It is almost as though the bodies of Gulf War veterans are beyond the realm of medical science, as whatever has happened to them is so entirely unique and new as to baffle modern medicine.

Hooper sees the role of the immune system as central to GWS. He suggests that the failure of the immune system allows illnesses which are normally under control to overcome the body. During a meeting about War Pensions with a Gulf veteran Hooper focused on the possible presence of the Epstein-Barr virus, a ubiquitous herpes virus that most of us have been exposed to once we reach adulthood. The virus has been implicated in Chronic Fatigue Syndrome and a number of other illnesses. He says, “Can get it [Eps-Barr] from the vaccines ... Is he positive for Eps Barr? ... One of the things that happened with all the lads, is they came back with Eps-Barr. We all have it, but immune system keeps it under control like Herpes- we all have it but when [the] immune system goes down it breaks out.” It is as though immune systems and bodies are active, constantly keeping almost inevitable illnesses at bay. Illness is a persistent presence both within and without, but it is only when the immune system is weakened that one’s illness takes hold. The immune system no longer provides resistance. Once this occurs there is nothing one can do to prevent further failure. The idea of the immune system giving way under the pressures of twentieth-century life is not a concept unique to GWS and is found throughout contemporary health beliefs.

The Immune System as Arbitrator of the Psychological

As mentioned previously, the rejection of any psychological factors is central to the debate about GWS. Placing discussions and theories of GWS in the discipline of immunology and genetics provides the basis for such a biological, medical explanation. However, explanations which prioritise the immune system allow for the inclusion of psychological factors without dismissing the physical premise of the condition. During my interviews I would ask if they thought emotions or state of mind could affect one's health. Many denied a connection; others suggested that this could be the case, but felt it was not a direct relationship. The relationship is seen to be mediated through a lack of sleep. The immune system is understood to work ineffectively if one is tired, but emotions do not directly affect this. Frank explains this relationship in response to the question: "do you think one's state of mind or one's emotions can affect one's health?"

Yes. If you are emotionally disturbed or depressed or something is really playing on your mind then it will effect your sleep and I think sleep is a great healer of things. Recharge your batteries. I learned that in the army. If I had any spare time I would spend as much time as that asleep. Sleep and eat. Get it while you can because you don't know when you are going to get it again. The longer I go without sleep the worse I really feel. My back hurts more, my stomach creates havoc. You need to rest for your body to recharge. And when your body recharges it helps your immune system to build up as well. Because I am quite drained, anything my kids bring home from school I catch it. Also think that some people can think themselves not well.

Others suggest that emotions and feeling "low" or depressed can reduce one's immune level, making one more susceptible to illness. Some veterans suggest that emotions lower the immune response because the body will be "concentrating" on other things. It is as though the body only has a limited amount of resources and if they are focused on one thing they will neglect another part of the body, such as the immune system. The connection between emotions, immune system and health has become widely accepted, particularly through the understanding of stress and has developed into its own field: "psychoneuroimmunology". Some recent GWS studies have suggested that multiple simultaneous vaccinations in stressed personnel may cause future complaints, particularly allergies (Rook and Stanford 1998; Rook 2002). Thus, it is understood that stress affects the immune system which makes it more vulnerable to additional assaults.

Vaccinations

Vaccinations, which are commonly approached with anxiety, are seen as the primary cause of the illness. Vaccinations are known to affect the immune system directly and are seen to inject illness (in a weak form) *into* the body. A theory that emphasises the role of vaccinations enables veterans to account for a number of apparent anomalies, such as why are there a fair number of GWS sufferers who never went to the Gulf. The primacy of vaccine damage also provides a way to discuss levels of illness in individuals (i.e., those who had *all* exposures may be more ill than those who had less). From an early age we are aware of the immune system through the process of vaccination. We are taught that we can support and teach our immune system. Vaccinations are seen as introducing something to the immune system so that it is able to recognise and respond to it in the future. Seen as a kind of education programme for the body, vaccines are given to prepare and strengthen the immune system.

A number of studies have found a link between GWS and vaccinations (Rook and Zumla 1997; Unwin et al. 1999; Hotopf et al. 2000). However, it has been suggested that these findings are inconclusive because recall of vaccinations is not always consistent with the patchy records that exist. Most of the discussions of the vaccination programme are clouded by veterans' memories of people reacting adversely at the time. There is no doubt that a small percentage of soldiers reacted to the immunisation programme. Some had swollen arms, some had flu-like symptoms for a couple of days, some were bedded down and, more seriously, a small number were casevaced¹⁰ out. There clearly was a level of anxiety directed at the immunisation programme at the time of preparation for the Gulf, and seeing people react negatively to the vaccinations added to the anxiety. Part of the anxiety about the vaccine programme was that it seemed counter-intuitive. In the run-up to the war strength was paramount, as one prepared for the war, while having vaccines was seen as weakening the body, even if only briefly. Since people understand vaccines as initially weakening the immune system, it is not surprising that they are seen as potentially dangerous. Vaccines are seen as introducing a dangerous entity, in weak form, into the body. Peter, for

10. Casualty evacuation. The term given to the removal of casualties or injured soldiers from the front line to their first medical station. In my discussions this term was used to describe the procedure when a soldier was flown out of theatre due to an adverse reaction to the inoculations.

example, sees a vaccine as "the introduction of the poison itself so blood cells can create antibodies to attack it". Another veteran, James, suggests that vaccines "put disease into the body, a little bit in and fights disease. It's safe on their own, but if you combine them they might be dangerous."

Veterans describe vaccines as a kind of training exercise for the immune system. Vaccinations introduce a small amount so that one is prepared and properly trained "so that you are prepared for the bigger version". Veterans emphasise the importance of recognition with regard to immune system response. Vaccines introduce information to the body so that it is later able to recognise and respond to the disease. The immune system is thought to have a kind of memory, so once it is introduced to a threat it will remember it and be prepared to fight it in the future. Boosters are seen as reminding the immune system of something it was previously introduced to, as the immune system will sometimes "forget" over time.

Soldiers are constantly given vaccinations and it is seen as an inevitable and regular aspect of service. Indeed, vaccinations are part of a soldier's regime and they can also be viewed as similar to other kinds of training exercises. Just as the soldier is prepared by small training exercises, so the immune system is trained by vaccinations. The vaccines given to soldiers are part of the process of creating the "proper" soldier as seen by the forces, the MoD and the government. As Martin (1994) suggests, since vaccines are perceived as a kind of education for the body, it is not surprising that some will not want such state-sponsored education. Accepting vaccination means "accepting the state's power to impose a particular view about the body and its immune system – the view developed by medical science" (Martin 1994: 193). In this case it is the view held by the MoD so it is even more loaded and political.

Some talk about the immune system being killed off or "stuck down" by the vaccines. One veteran described the immune system as held down and prevented from working. Veterans also stress the unnecessary aspect of the vaccination programme. In the end, there was no attack of anthrax or plague, so their immune systems were prepared for something that it never met. Veterans' statements suggest that vaccines, if unnecessary, block up the immune system. It is as though there is a limit to the resources of the immune system and the vaccines given to them in the Gulf distracted the immune system from doing other jobs.

As Martin (1994) found, some people wish to avoid the system of "state education" for their immune systems in the form of vaccinations. By doing so they are developing a positive view of what their health is.

This view “shares with immunology the basic notion of the body as a training ground for the immune system, but it denies the benefits of crash courses” (Martin 1994: 202). In such a view, a vaccine, “bludgeoning the delicate adjustment of the finely tuned immune system with antigens at a time when there is no actual threat, could easily be seen as something undermining health” (Martin 1994: 202). Martin further points out that whereas people may see their immune systems as adaptable and flexible, this can be contrasted with the rigid, unchanging state. So a vaccine policy which is planned and administered by the state could be expected to share its characteristics – sluggish and inflexible, unable to respond to individuals according to their health needs (Martin 1994). This may be particularly the case of the MoD and the military, who are often portrayed as both inflexible and malevolent. Indeed, my informants often suggested that the routine immunisations did not take into account individual differences such as weight.

Overload

The concept of “overload”, with the body giving way to the stresses of twentieth-century life is a common theme in illness narratives of CFS and other new illnesses (e.g. see Steincamp 1989). Many of my informants explain that the immunisations and other preventative measures taken were simply too much for the body to handle. Many also stress that there were numerous vaccines given in an extremely short space of time. It is as though the body was unable to respond to the sheer amount of information given to it in one or two “training sessions”. Veterans also express concern that the vaccines and other exposures may have had a “cocktail effect” where they reacted in some way to produce a new, unknown entity. Paul explains:

I think giving a cocktail of so many chemicals are absorbed into your system. The immune system has basically collapsed and can't fight off what's been given. If you are given the flu jab you are given the flu, a small piece of the flu, to fight off the flu. Anthrax and Botulism ... it's the same thing. And malaria, NAPS, BATS¹¹ and whatever was out there like that dump. And don't forget the oil well fires ... the MoD saying that didn't happen ... To do with your health and fitness ... it's permanently damaged the immune system. I can't shake things ... Dr Jamal has proved that through his work ... I think it's [the immune system] collapsed. I think the immune system ...

11. Biological Agent Treatment Set. Preventative medication issued in the event of an attack by a biological weapon. Although it has been widely stated that no UK troops took BATS, a number of veterans claim to have taken them.

it's like a computer. Too much at one time going on the net, too many people logging on, for example. It collapses. It just can't take what's being given. Too much work load. It breaks down. Failure.

Gulf veterans talk about the body not being given time to recover before the next vaccine was given. There is a notion that the body needs time to react, rebuild and respond before it is ready to be educated again. They suggest that if the immune system is not given time it will be exhausted and unable to bounce back. As Lee suggests:

Well, I know it's like nowadays with the flu vaccine for the old people you go along, park your zimmer frame up, get jabbed and you come out. When you walked in the surgery you think OK, you get your flu jab and obviously it puts a little bit of it in 'ya so you can get the antibodies. You might get a few signs – runny nose, sore eyes, whatever. However colds tend to affect you most it will maybe come out. Because the obvious symptoms that you'll get that's your body combating it. And that's how it works. I mean, I did my RMA course, which is the medical course although I wasn't a medic, so I know a little bit about it. So you get a little bit in you so you can make your own antibodies to it. That's fine. Your body can cope with that. But when you've got *multiple* ones whizzing all around your system – the white blood aren't Linford Christie. There's not enough of them to deal with all what's in 'ya. You cannot keep putting foreign substances into a sealed system without problems happening. Its like hydraulics, it's like a car. You can't just keep filling up with petrol. It will only take so much ... Any sealed system can only take so much and that's the same with things like that. They overloaded the system that couldn't cope.

There is a point of saturation, where the immune system with all its flexibility is unable to continue reacting. It is almost as though there is a limit of elasticity. When the immune system has been asked too much and is overwhelmed it loses its ability to adapt. It is as though the bodies of veterans were not able to "take in" the education of each vaccine before being hit with another. Such exhaustion is permanent, with the immune system never able to recover. Discussions of overloading the immune system are often linked to the current debate about the MMR vaccine.

During the time of my fieldwork, vaccinations were once again in the news. The MMR vaccine was often the focus of news stories and public concern. Not surprisingly, veterans often voiced their concerns about the MMR for their children and linked the debate about the MMR, a multiple vaccination, with the theory of their illness. The furore around the MMR vaccine is used to justify their concerns and adds weight to their argument of the role of the vaccines in their illness. As Harry noted:

I think the large amount of vaccines in a short space of time must have had a knock-on effect to your immune system. I mean, I think it's associated with the MMR and things like that. Giving a lot of thing in a short space of time which is the British medical advised the MoD not to do that.

Ben also compares his Gulf War experience of multiple vaccinations to the current debate about the MMR vaccine:

I think that the fact that the drugs, the injections we had to take, we took them all in such a close proximity. Thinking about it logically, thinking about the problems that they are having with the MMR vaccination, the cocktail of drugs given to people ... again, nobody is admitting that there is a problem, on the government side of it. They have statistics showing that people have been made ill through it. I think look at these drugs that were given: anthrax, bubonic plague, God knows what.

Although most suggest that they were concerned about the MMR, they said they believe vaccinations were important for their children and that they would prefer single vaccinations. I was, however, surprised at the number who suggested that they would not or did not vaccinate their children. Many argue that it should be a parent's choice and discussions were placed in discourse of rights, liberties and control. Veterans suggest that parents would be more aware than the doctors if their children were "susceptible" or vulnerable, so they should have the right to choose whether or not to vaccinate. This resonates with Polotrak et al.'s (2004) investigation into parental attitudes about the MMR, which revealed that parents felt they could assess their child's unique vulnerability.

Self versus Non-self

A central concept in immunology is the ability of the immune system to "differentiate between 'foreign' material (non-self) and the body's own tissue (self). The ability to make this distinction is crucial" (Isenberg and Morrow 1995: 2). The state of permanent protection is based on the immune system's ability to make this differentiation. In *Friendly Fire: Explaining Autoimmune Disease*,¹² Isenberg and Morrow (1995) claim that the most important role of the immune system is that of self-defence. In this popular book meant to explain auto-immune

12. Interestingly, I had called early papers on the subject of GWS 'Friendly Fire', unaware of this book. As one can see the name immediately conjures military images as well as the idea of one turning on one's own side through misrecognition.

diseases to the general public,¹³ military metaphors prevail, as does the emphasis on the immune system's ability to recognise self from non-self. The authors argue that there "are 'enemies' both without and potentially within the body. Thus the immune system has evolved to ensure that foreign microbes can be recognised and speedily destroyed" (Isenberg and Morrow 1995: v).

The immune system is a cultural construct; the way we conceive of it is influenced by our understandings of the world. Our notions of what a "culture means socially are identical to our notions of what a culture is clinically [...] That our immune system takes part of the body as its own enemy is as much a statement of culture (in both a social and biological sense) as it is a description of something that is actually observable" (Napier 1992: 151). Veterans' concerns about the immune system are an extension of their concerns about body boundaries. Indeed, immunity to a large degree is what "establishes body-image boundary as much as what threatens it, and, since body-image priorities are cultural phenomena, so are the mental constructs that we call 'immune systems'" (ibid.).

As we have seen, the immune system is perceived as something inside the body which protects it from disease by recognising and fighting that which is dangerous. However, Gulf veterans see their immune system as failing in this regard. The immune systems of Gulf veterans are simply not working correctly, if at all. This results in the immune system no longer being able to fight, or even recognise that which it is supposed to fight. As Stan, a non-deployed Gulf veteran, explains, "The immune system is basically the body producing chemicals to fight against attack from outside forces. Body is just trying to defend itself to survive. System is not what it should be so it'll get you."

Veterans mainly discuss their immune system as giving up, but they simultaneously talk about it as being active in another way – in fighting against itself. This kind of activity arises out of a lack of control. The immune system is not behaving as it should and is not doing its duty. Aaron, a non-deployed veteran,¹⁴ discusses his understanding of his illness:

13. I was informed by Dr Andrea Stockl, an anthropologist studying the auto-immune disorder, Systemic lupus erythematosus (SLE), that most of her informants had read this book and that it was described as their "bible".
14. Aaron left the army in the 1980s but has joined the association because he feels he has the same illness as other Gulf veterans. He believes he was injected with the same things as Gulf veterans were. He sees GWS as part of a much larger illness of many ex-soldiers. Although he was accepted into the group, they are now keen to distance themselves from him. It is likely that this is because accepting him as having GWS weakens their argument of the uniqueness of the Gulf War and GWS.

The immune system is to fight illness, disease, bacteria. For it to suddenly turn on itself, which is what mine has done, I mean, how you get from one day you are working fine and the next day your face is pure white, you've got a blinding headache, you can't see properly, your bowels have gone. And they find out there is not enough oxygen in the blood and then they find out why. It's because the immune system is destroying the oxygen in the blood. I mean, something has gone wrong for it to make that sudden change from attacking illness or bacteria to attacking itself.

Aaron sees his immune system as actively fighting against itself; it suddenly changes its duty. Before, when he was healthy, the immune system fought against illness, but now it is unable to recognise the difference between self and other and, instead, attacks itself. Claeson et al. (1996) found that the "concept of the boundary between self and non-self is a touchstone for broader social meanings. Since [they found] such concepts so commonly in interviews, it raises the question of whether the central role of boundaries in current research immunology is not culturally based in its inception" (Claeson et al. 1996: 114).

Veterans and their advocates stress that they suffer from "auto-immune" diseases, where the body does not recognise its "self" and as a result interprets as foreign and attacks itself. Auto-immune diseases occur when the body inadvertently attacks its own healthy tissues – described in immunology as "self-destructive illnesses". During a talk he gave to the veterans' association, Hooper spoke about a scientific study¹⁵ which suggested that 12 per cent of US veterans who were given vaccinations, but were not deployed, had GWS. He further suggests that,

Anybody who knows anything about vaccines knows about ... the auto-immune diseases that you get. How many of you have got arthritis? And how many have got auto-immune diseases affecting the skin? Any of you got lupus? You know, these are the sorts of things you would expect. Diabetes, another one [that] can be auto-immune generated. There's a whole range of auto-immune diseases which are well known. Multiple sclerosis – damage to the central nervous system, you know. They are all there. And this is what you would expect from vaccine damage.

Hooper suggests that the vaccines given to Gulf veterans triggered an immune response which resulted in auto-immune diseases: that the bodies of Gulf veterans are turning on themselves.

15. Unpublished study by Lea Steele

In her work on the cultural life of immune systems, Haraway suggests, "disease is a subspecies of information malfunction or communication pathology; disease is a misrecognition or transgression of the boundaries of a strategic assemblage called the self" (1991: 212). Veterans submit that whatever happened to them in the Gulf resulted in their bodies being unable to make this differentiation. Martin found that:

[The] portrait of the body conveyed most often and most vividly in the mass media shows it as a defended nation-state, organised around a hierarchy of gender, race, and class. In this picture, the boundary between the body ("self") and the external world ("nonself") is rigid and absolute ... The notion that the immune system maintains a clear boundary between self and nonself is often accompanied by a conception of the nonself world as foreign and hostile. (1994: 51)

Thus, we can see how military metaphors follow easily from such distinctions between self and foreign, hostile entities.

Military Metaphors

Although my informants did sometimes use other metaphors (house, computer) for the immune system, the majority of them used military metaphors. In many of the above quotations one can see such metaphors being used to organise and make sense of illness. This is not unique to military people, however, as immunology is dominated by military metaphors. The potential for embodying the images that the immune sciences presents us with "as they trickle down through *National Geographic* and *Time* (Haraway 1993; Martin 1994) – including commonly militaristic ones – is real (Napier 1996: 335)" (Wilce and Price 2003: 56). As we have seen above, veterans talk about their immune system not doing its duty, not behaving, fighting, as it should. When they describe their immune systems they imagine them as comprised of sentient beings, like soldiers: as Steve describes, "I've seen it in books: billions of little soldiers under a microscope fighting another lot of soldiers and ... the vaccine is the little soldiers."

Ed uses a number of metaphors to explain how he imagines what happened to his body when he was injected with the vaccines for the Gulf War.

It just feels like it had the adverse effect [...] Like a wall coming down, I think. Like the enemy hitting you, attacking, you know, I've got my defences. Like a game of chess, I suppose. The other side of the board

attacking me and with him so easily knocking my defences down without me being able to fight back, totally defenceless ... Because there were so many at once and because they tried to do ... not too many chefs spoil the broth, type of thing. But too many trying to do different things without thinking about it. And it went totally adverse, it went totally the other way. It's like an army colonel planning a battle and not planning it properly and everyone going in without a clue of what to do. And it's all gone wrong, basically. It's just breaking down. It's just giving up so easily. The body is not being able to fight it. Why is the body not fighting it? Where are my defences gone? Surely I should have something in reserve to help.

Earlier in his discussion, Ed explained to me that whatever had been given to him had "killed off" or "stuck down" his immune system and prevented it from "doing its duty". He also described a cold as a "big battle" inside himself. In his explanation above, Ed discusses confusion: he imagines his body in a state of chaos, with "everyone without a clue of what to do". He imagines that there was too much happening and the body, which could not respond appropriately. Contained in his explanation is the sense that there is a lack of communication resulting in failure. This theme of miscommunication emerges again and again in veteran's narratives about the war itself and their illness. As Ben says:

I've been given all this stuff in my bloodstream and my body is designed to attack it and that's what happens. That's the way I look at it in my head. These white cells, or whatever, are attacking all the horribly nasty stuff. In fact, did you ever see that film with Raquel Welch? That's how I imagine it ... Because I had so much, I imagine I didn't have enough antibodies to attack this stuff. And so, it was like, a thousand men defending against 10,000 men. No matter how much I had in my body, I don't think I'd have had enough to have coped with the amount that was attacking it. So that's what's going to make you feel poorly. Your body can only cope with so much ... [How do you understand vaccines as working?] You get given a certain amount of the disease or whatever it is that they are trying to protect you against. So your body's immune system can attack that. Fight against it. Figure out what it is it's fighting against. And create its own immunity against it happening again. So, "oh look, I've got one of my, ah, antibodies here in my body. It's attacking this horrible thing. Ah, I know what it is now and there are plenty of us here now. There are 10,000 of us attacking a thousand of them. All right, we've beaten you. What is it? Ah, we see what it is. OK then, we'll take a little bit of that and stick it in our memories, tell our whole body about it so next time it sees it, it won't let it hurt me".

After Ben's explanation of what happens when one gets a vaccine, I asked him what he imagined happened in his body when he was vaccinated in preparation for the Gulf War:

Well, I never thought about it in this way before, it's quite good. I've got a thousand of me over here, 10,000 over there now, it's attacking all these things. It says, "OK that's what that is". All right, you might have one little cell say, "oh, I've beaten him now", you know, "I've beaten him up, I've done all Pleasant Stead¹⁶ now. I want to go on to Raquel Welch. No, but I'll tell the rest of my body now. Hang on a minute, my mate over here is telling me over there that he has just eaten him over there and he wants to tell everybody that this is the one to fight against". And just imagine it, it's like Chinese whispers, I suppose. You've got ten people in a room, say ten different vaccines. They've all got, they've all done their jobs but they are trying to tell each other how to fight it. And then they say, "well, hang on a minute, we haven't got the resources to tell everybody in our body to tell them to fight all of these at once. Should we tell them to fight one of them, or fight a little bit at a time. Or what should we do?" So all of a sudden there is a hell of a lot of confusion. They, ah, might even get mixed up, saying, "well, hang on a minute, did he tell me this is what we're supposed to do to fight this and to fight that?" OK, they aren't reasoning, thinking beings, but they could get confused in their signals. Because there are so many at the same time. Or very similar vaccines or things. Or too many and they haven't got the resources to fight it. I mean, you go to war, you fighting an army of 50,000 men, you've got 10 where are you going to get the rest from? Well, you haven't got them. What are you going to do? You can run away or you can cope as best as you can. You can't do it.

Ben expands on the military metaphor and the theme of miscommunication. Martin (1994) showed that in the media military metaphors abound, but there are also descriptions of the immune system as a "regulatory – communications network" (Schindler 1988: 1). The body is seen as "an engineered communications system, ordered by a fluid and dispersed command-control-intelligence network" (Harraway 1989: 14). My informants tended to collapse these two metaphors. The system, a military system, is held together by systems of communication and feedback. I would suggest that as military personnel, their jobs focus on organisation as well as the efficient flow of orders and information down the lines of command. It is not surprising then that when discussing their unresponsive and broken bodies they make use of this kind of metaphor.

In her work, Martin (1994) found that people used military images regardless of their gender, age, race or other social features. She felt that this was partly because of the omnipresent imagery in the media, although the kind of society in which different people live may also be

16. Character from the movie *The Fantastic Voyage*. Ben was not the only veteran to talk about this movie in his discussions of the immune system.

important. Martin wrote: “*all* the examples that struck [her] as the most elaborated, vivid departures from military imagery came from people in their late teens and early twenties, people coming of age at a time when cold war assumptions are being drastically shaken and a new sensibility about how the body relates to the world may be arising” (Martin 1994: 71; emphasis in the original). Thus, it is not surprising that military metaphors abounded amongst my informant population, whose view of the world had been dominated by their military careers, war and the preparation for war. Their use of military metaphors was quite specific, focusing on themes of quantity and strength. Interestingly, they do not appear to use themes which are widely used when discussing the Gulf War, such as intelligence and technology. Their narratives are likely to reflect their own experiences of war, as illustrated in the next section in depth.

Friendly Fire

The military metaphor is expanded to discussions of friendly fire, where the enemy is one’s “self”. This relates to the discussion above, which situates immunology discourse in the central distinction between self and other. Indeed, I would suggest that discussions of self and non-self in the GWS context could be collapsed into discussions of friendly fire. The Gulf War was a war with few coalition casualties. Media reports enthusiastically reported the “smart” and “clean” war which resulted in very few deaths (not reporting the large casualties on the Iraqi side), yet more soldiers died in friendly fire incidents than were killed by enemy fire. The “blue on blue” incidents were powerful stories. During my interviews I was surprised by how many people discussed the friendly fire incidents and their connections to them. Although the number of such incidents was limited, it appears that an inflated number of people claim to have been involved to some degree.

The concept of one’s side fighting and killing its own people through breakdown in communication and confusion was often part of the veterans’ discussions. The term “friendly fire” has traditionally been used to refer to those injured by inadvertently targeted munitions from their own side. This, however, has been extended even further in the aftermath of the Gulf War. When veterans speak about their illness they not only use the friendly fire metaphor for the cause of their suffering, but they also talk about their illness as their body turning on itself – a kind of blue on blue. Drugs given to them by their medical officers, their commanders and their government is that which is killing them. That which is slowly killing them is a result of their own side’s

mistake or, worse still, purposeful sabotage. In discussing the side-effects of their Gulf War experience being passed down to their children, veterans often suggested that this was a kind of friendly fire.

As mentioned above, the central concept in immunology is the ability of the immune system to differentiate between "foreign" material (non-self) and the body's own tissue (self). Health is entirely dependent upon the ability to make this distinction. In their discussions of auto-immune disorders, veterans suggest that their bodies are turning on themselves, which could be likened to friendly fire: the body does not recognise itself as not the enemy. In his discussion of the vaccinations given to him in preparation for the Gulf, Ed says, "I just think they've done the opposite of what they were supposed to do, you know. I mean, they were fighting against each other. Whatever they gave us had a totally adverse effect because they mixed them together."

Science literacy is much more than merely knowing some basic "facts" and simple concepts (Hazen and Trefil 1991a: xix). Individuals use "facts" in very different ways; they often make them work with their particular local circumstances as well as express their most overarching views of the world (Claeson et al. 1996). Claeson et al. suggest that using metaphor to

[C]onceptualize the body may affect our conceptualization of social situations. Some theorists emphasise the interactive nature of the elements paired in a metaphor, so that when Dante says "Hell is a lake of ice," the hearer extends the association of "hell" to a "lake of ice," thus transforming both elements of the metaphor (Hesse 1961; Black 1962: 37). Through the use of a body/war metaphor we may not only be thinking of the body as naturally war-like, but we may also be thinking of the state of war as natural. (Claeson et al. 1996: 144)

When veterans discuss their illness in terms of friendly fire, they are explicitly commenting on their view of the world. Veterans see the world as full of threats: pollutants, genetic illnesses (such as cancer) and toxins, but the greatest threat of all is one's own government. Substances and institutions which we once thought to be harmless are now the purveyors of danger.

Although initial theories of GWS pointed to possible unknown chemical or biological warfare by Saddam Hussein, these theories were soon abandoned.¹⁷ Instead, theories now point to known contamination

17. Not totally abandoned, however. Hayley explicitly states that GWS is due to brain damage which was caused by sarin on day four of the war (Wessely 2003).

by the UK government. The consequences of being wounded by your own side are greater those resulting from enemy action. The isolated cases of both the American and the British being wounded by Coalition forces, and anecdotal evidence, suggests that these personnel have experienced greater psychological problems than others (Wessely and Freedman 2006). One must also ask about the effects of being harmed by one's own side in terms of Gulf exposures and the subsequent development of GWS. Of all the exposures implicated, only smoke from burning oil wells was clearly the result of enemy action. It is worth noting that this is the exposure that has attracted the least attention. Veterans see the MoD and the government (including most doctors and scientists) as their main enemy. That which was friend and protector has turned on them and, indeed, is that which has made them ill. As Malcolm Hooper said to me during our first meeting, "As you can see all these things have nothing to do with Saddam Hussein except possibly biological. But we sold the cultures to him to develop. Our own enemy. We are the enemy." This comment resonates strikingly with Martin's report that in one television show, auto-immunity was described as "we have met the enemy and the enemy is us" (reported to Martin by Ariane van der Straten; Martin 1994: 62).

Conclusions

Reporting that they *feel* and *know* their immune system to be damaged can be linked to their embodied experience. Recent studies have revealed that even within a medical establishment individuals "generally attribute feelings of vigour and vitality to a well-functioning immune system, and feelings of fatigue to poor immune function" (Booth and Davison 2003: 37). Petrie et al. found "perceptions of immune functioning to be unrelated to the concentration of serum antibodies or blood lymphocytes. Immune perceptions were strongly related to mood and in particular, feelings of fatigue and vigour. The experience of recent physical symptoms, while not as strong as mood variables, was also important in perceptions of immune functioning" (1999: 391). The idea of the immune system has become so embedded in popular culture that popular notions of one's own vitality and health are often expressed in terms of perceived immune function.

It is not surprising that Gulf veterans, whose very suffering is in dispute, would look towards the immune system to organise and legitimate their illness, since the immune system has emerged "as a field in terms of which all manner of questions and definitions about health are given meaning and measured" (Martin 1994: xvii). An aspect of this

shift towards immunology is that bodies and immune systems were seen as agile – no longer docile. Tauber (1994) shows that immunology “was born in the controversies of that fresh announcement that no species, including our own, was a static entity [...] it is always adapting, always changing. Thus, the very core issue of *identity* is for the first time raised as a problem. With the Darwinian revolution, a physiological ability to differentiate self from nonself must be postulated” (Tauber 1994: 2; emphasis in original). Central to notions of the immune system is the ability to adapt and evolve as one faces new challenges. Lay theories of illnesses such as ME/CFS, food allergy, MCS and others see them arising when the immune system gives way under the pressures of twentieth-century life (Shorter 1992). The threats to immunity come from toxins, pesticides, contraceptives, pollution, viruses, food additives, mercury, and so on. Even stress, a psychological concept, is accepted usually via its effect on immunity. The person and their immune systems are simply overloaded and unable to keep adapting.

The veterans’ discussions described above can be seen as examples of how people are engaged in producing what Geertz has called “local knowledge” – “the artisan task of seeing broad principles in parochial facts” (1983: 168) and “stories about events cast in imagery about principles” (Geertz 1983: 215). When people discuss the immune system they are revealing their conceptions of both bodies and other social facts. When veterans talk about their immune system as being insulted and degraded they are also talking about their position in the world. They are recounting their experience of being in and of leaving the military. Bodies which were once toned and prepared have become chaotic and weak. Their immune systems have reached their limits and no longer adapt. When veterans talk about their illness as their body turning on itself, they are reflecting their belief that their government has let them down and betrayed them, and also drawing on their experience of war itself.

Situating discussions of their illnesses in the discourse of immunology allows veterans an overall, inclusive theoretical model of their illness whilst simultaneously encompassing the overwhelmingly individual nature of the illness. Thus, any illness or symptom can be included in GWS narratives by way of situating it in the immune system. This understanding of the immune system is very important because it explains what is otherwise inexplicable. Through the immune system veterans are able to develop an inclusive and watertight system. They are able to relate OPs to vaccines and NAPS; they can relate different scientific themes and explain diverse outcomes. This theory is also able to explain why a proportion of sufferers never went to war. The immune system is a central melting

pot and allows them to make sense of the incoherent. In discussing the immune system veterans are also revealing their view of the world, their feelings of vulnerability and their experience of unravelling after leaving the forces.