

## Keynote Speech

### 2003 GSA Symposium: Midwest Region Communicating Beyond Boundaries: New Voices in Interdisciplinary Scholarship

#### Between Machine and Mammal: Zarathustra's Inner Primate

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#### I

On February 11, 1738, in Paris, inventor Jacques de Vaucanson revealed a marvel to paying customers. Vaucanson only allowed about 15 people at a time into the showroom, but what they saw there more than compensated for the two weeks wages it cost to be in the audience. A mechanical flute player, who looked plausibly human and moved in a human way, played a round of music as perfectly as any human flute player. Later, Diderot and d'Alembert, in their *Encyclopedia* described this mechanism in great detail under the entry entitled "android." An android, said the Encyclopedists, is "an automaton in human form which, by means of certain well-positioned springs, etc., performs certain functions which externally resemble those of man."<sup>1</sup>

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Toward the end of the following century, on January 3<sup>rd</sup>, 1889, in Turin, Italy, a man was walking down a crowded street, the Via Po, when he espied a horse straining and becoming exhausted while it pulled a hansom cab. Something darkened in the walker's mind. He sprinted to the scene and embraced the horse's neck to stop the duress, sobbing as he did so. Almost immediately, he collapsed, temporarily losing consciousness. His friend, Davide Fino, took him home, but that tortured soul remained dark and never

regained his sanity, dying ten years later in the arms of the woman he hated most in all the world, his sister Elizabeth. That unfortunate man was Friedrich Nietzsche.<sup>2</sup>

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What links these two episodes in the annals of Western intellectual history, a mechanical flute player and a notorious madman/philosopher? I would maintain that Vaucanson's flautist symbolizes a furtive escapade, a mad flight we have taken from ourselves that is now several centuries old -- the attempt to imagine ourselves as machines and therefore as able to live indefinitely; Nietzsche's writing -- minus its historical misunderstandings - - represents, for me, the way home, the way to see ourselves as who we undeniably are. Viewing ourselves as complex machines is the compliment science pays to the concept of soul, which, of course, science replaces with the concept of circuitry. Both the notions of human souls and of humans as machines are, I will argue, elegant ways of repressing what we really know for sure we are; namely, animals -- primates to be exact. The Third Chimpanzee, as Jared Diamond calls us. Nietzsche saw that evasion of our animality and strove mightily to face his own inner primate. We may, indeed, be souls; we may someday be able to replace ourselves mechanically; but what we know for sure about ourselves is that we are a certain kind of beast.

## II

Plato, lifting generously from Afro-Asiatic theologies, introduced and defended what eventually becomes the Western concept soul. For him, the soul is "...most like the divine, deathless, intelligible, uniform, indissoluble, always the same as itself," whereas the body is "most like that which is human, mortal, multiform, unintelligible, soluble and never consistently the same."<sup>3</sup> If you snuggle up to the body it will drag you down further into matter. Indeed, if you really learn to live it up inside your skin, your soul will transmogrify to a nonhuman animal body, a donkey if you were an alcoholic, a wolf if you were a tyrant. And for Plato that's about as bad as it gets. The evidence that we are more than our bodies, that we are more than a certain kind of animal, varies. Most apologists of soul appeal, like Plato did, to reason. Humans can reason; nothing else we know can. Humans must be distinctly different from everything else we know. That difference is accounted for by their having a soul.

Of the many critiques of the concept of soul adduced since the 18<sup>th</sup> century, two stand out. The first is the mechanist attack, to which we next turn. The second, luckily for the coherence of this talk, is Nietzsche's genealogy of soul, which we will only mention.

The first indicts soul enthusiasts for making a brash speculative leap; the second indicts them for cowardice.

Critics of religion in the 18<sup>th</sup> century received much comfort from anatomists, and inventors like Vaucanson as well as his less gifted predecessors. It looked as if anything a human could do an appropriately engineered android could do almost as well, including

reasoning. Julien Offroy de LaMettrie, for instance, claimed that soul “was an empty word to which no idea corresponds” because the human is merely a machine that thinks, and there is no reason to think that reason or thinking is anything other than mechanical. La Mettrie was a physician; he knew whereof he spoke, at least about human anatomy. Here he is on what we might call instincts:

Does the body not leap back mechanically in terror when one comes upon an unexpected precipice? And do the eyelids not close automatically at the threat of a blow? ... Does the stomach not heave automatically when irritated by poison? Do the lungs not automatically work continually like bellows?

La Mettrie’s older philosopher colleague, Rene Descartes also argued that it would be possible to make what he called “an automaton of clay,” but he contended that there was one thing no machine or machine part could do; that is, to speak a natural language. No animal, for animals were just machines to Descartes; no android, for no android conceivable by Descartes could converse with a human over any amount of time without repeating itself or running out of tape. Thus, human minds were in fact nonmechanical and hence immaterial. In a famous phrase, 20<sup>th</sup> century philosopher Gilbert Ryle<sup>4</sup> parodied Descartes’ attempt at saving the soul by calling his solution “the dogma of the Ghost in the Machine.”

No matter whom you side with in this battle begun in the 18<sup>th</sup> century, two points are today incontrovertible. The first is that mechanism won as the scientific model for

understanding the human mind; the second is that most mechanists considered the concept of soul wishful thinking. It would be a nice thought to live forever, we can hear those Enlightenment skeptics saying, but it ain't gonna happen that way.

That second point is disingenuous. The mechanist, far from giving up immortality, recovers it in another form. Mechanist indictments of believers in souls imply that they themselves, mechanists, are strong enough to live without promise of immortality. They are not. Even Descartes, perhaps hedging his bet, claimed that eventually, with a properly scientific medicine, we could virtually live forever because our bodies are machines, a theme taken up with zest by LaMettrie. Vaucanson, during an especially nasty bout of gastrointestinal disease, created a mechanical duck that pecked, ate, and perfectly digested grain; it even defecated. Would it be too far fetched to indict Vaucanson himself of wishful thinking? If only we could replace our defective guts with parts similar to duck entrails, we would never have to worry about nausea! As novelist and medievalist Umberto Eco observes of 18<sup>th</sup> century robotologists: they “substituted for the forces of evil the forces of mechanics.”<sup>5</sup> The facticity of our bodies, the inevitable failure of our organs, our animal appetites could be redeemed by the promise of mechanized immortality.

### III

But we haven't really talked about me yet. Why did the conference planners ask me to present a keynote speech? I think it had to do with my interdisciplinary approach and

inclinations. Maybe I'm the cautionary tale of interdisciplinarity gone berserk. During my career, I've been dabbling in two completely unrelated areas. First, I've been interested in how the human mind makes us, and so, early on, worked in the area of what we now call philosophy of cognitive science, where philosophy shared concepts, approaches and methods with psychology, linguistics, and artificial intelligence. I have also worked more recently on a seemingly unrelated project -- contemporary continental philosophy -- where thinkers like Nietzsche, Irigaray, Derrida, Foucault, Habermas and Zizek attempt to make the world safe from science or any other totalizing institution. My own thinking and writing have attempted to use the resources of continental philosophy to critique the political underpinnings of areas such as cognitive science and evolutionary psychology -- territory not usually trod by persnickety postmoderns. This talk represents one such salient.

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The program of cognitive science aims to unify all of the disciplines and research projects involving the nature of mind into one paradigm: the mind as computational process. In other words, for cognitive scientists the mind -- more exactly, the brain -- just is a very complex, parallel-processing computer.

What does it mean to conceive of a mental process as computational? Put simply, it means that your thoughts are complex representations made up of primitive symbols; these symbols are put together with the aid of a finite number of rules. The putting

together of such symbols by such rules, their storage, their calling-up for various occasions, their manipulation – is all we mean, or can ever mean, by thinking, feeling, sensing. An alternate model of such processing, called connectionism, works without rules, but even here, nonsymbolic primitives are supposed eventually to create symbols and take on reliable structures. So, what may feel spontaneous, even creative, to the owner of the brain is really the unconscious result of plodding, if not predictable, symbol-crunching.

In other words, cognitive science is the most advanced form of mechanism we have. Or rather part of the most advanced form of mechanism we have. Somewhere in the 90's students of cognitive science got interested in evolutionary theory, evolutionary psychology in particular, and the brain machine was best thought to be merely the guiding system for the gene machine that the human body in general is. For evolutionary psychologists of the likes of Cosmides, Tooby and Buss<sup>6</sup>, our minds are a tangle of special purpose modules shaped in the ancestral environment, each by accident and apart from the other. Moreover, according to Plotkin each separate module evolves on its own, responding to environmental changes. Plotkin calls these modules “Darwin machines.”<sup>7</sup> A module is machinelike because it is automated and invariant. You always get the same stuff out of it, and you can only put certain stuff in it. Modules are “inherent constraints,” to use the currently canonical language<sup>8</sup> or “specialized circuits.” We have, according to the contemporary story, a face-recognition module, a phoneme (meaningful sound) reception module, symbolic thought modules,<sup>9</sup> consensus decision making modules,<sup>10</sup> etc. As opposed to the Ghost in the Machine, we are the Machine within the

Machine. “Strong AI” cognitive scientists want to reduce human brains to computational machines just as evolutionary psychology reduces those computational devices to genetic adaptations. The answer to the question Why are our brains computational machines is that our bodies are gene machines that can only survive with a modular brain.

I think it likely that our brains are computational devices, computing machines, if you will, shaped by evolution in the ancestral environment. And I suppose that it may be possible some day to build a computer that thinks – though not very probable. If one subtracts the machine metaphor, conceiving of the mind as computation and the body as complex gene action resulting from millennia of primate groups surviving in a hostile environment gives us just what we are: highly inventive and intelligent animals.

Therefore, I side with materialists – those who maintain that all of our human abilities can be explained by physical causes. I disagree with mechanistic materialism, however, on two major points. First, as I have hinted, I think that mechanists repress our animality, our earthly nature, every bit as much as advocates of ghosts in the machine. AND they would strongly deny doing so. Second, mechanists think that their position militates against the possibility of an immaterial soul. It seems to me, however, that, logically, one could indeed BE such an entity while SEEMING, by all measurable experiments, to be completely material. That is, the fact that science will be able to explain all human states as physical should pose no threat to conventional believers in a soul because they shouldn’t, on their own premises, be using human cognitive traits to try to prove the existence of a soul in the first place.



Thus, I read Kant's teasing out of noumenal from phenomenal, Kierkegaard's leap of faith, and the whole tradition of "negative theology" from Anselm in the 11<sup>th</sup> century to Derrida today to be showing how advanced scientific explanations of humanity can be true *along with* beliefs about the nature and existence of the soul. The late Stephen Jay Gould called the two realms – the spiritual and the scientific -- "Nonoverlapping Magisteria," which to my mind names the phenomenon correctly. More could be said about this, but not today.

At least in respect to what William James called the "cash value" of an idea, machine talk replaces soul talk in the cultural imaginary without giving up soul hopes. The fact is that viewing ourselves as robotic is less terrifying than viewing ourselves as debased animals. Animal nature, despite Descartes' attempts to mechanize it, is full of sound and fury, red in tooth and claw, produces in us, especially when an animal acts all-too-human, frissons of terror that Freud called the feeling of "the uncanny."<sup>11</sup> As early in Western literature as Ovid, we have humans turning into animals on account of their transgressions; the middle ages saw the development of fairy tales around fear of predatory animals; and need I mention King Kong in the 20<sup>th</sup> and primal fears of our own sexuality?

And while alluding to film, we might touch on visual culture very briefly to impress upon ourselves the insight that our cultural imaginary shows the machine to be more friend than fiend and animals more chilling than cuddly. I owe the more trenchant of the

following insights to students who are also film fanatics: Josh Goldsmith, Adam Hutchinson, and Wesley Phelps.

If you have to choose, you would probably prefer to be Robocop or even the Tin Man rather than Dr. Zeuss. Hannibal Lecter: is he creepy because he's a killing machine or precisely because he's not, because he is one of us and should know better. Whom would you be more afraid to be in a room with: Alien's bug or the Terminator? The Fly or a Borg? And here's a culture-studies dissertation in the making: examine the Star Wars series, especially the last two, separate the animal-like from the machine-like beings and find clues about the way our culture views both. I find it notable, for instance, that in *The Clone Wars*, the clones in question appear in battle suits that make them look mechanical. Clones and machines, biology and machinery, are logically equivalent.

Maybe machines don't bother us so much because we assume there is nobody home in a robot or, ultimately, even an android, but somebody is always at home in an animal...and it isn't like us. But almost certainly, our fear of animality is intimately linked with sexuality and reproduction.<sup>12</sup> Far from being a promise of immortality, both represent mortality: I'm reproducing...somebody else. I won't be around. And don't get me started on themes of sexuality and aging in the Western cultural imaginary...

Isn't immortality of some sort at the heart of most Science Fiction fantasies about ourselves? Think of the most recent exhibits: *AI*, *Minority Report*, *Solaris*. And aren't most such fantasies allied either to machine mechanism or to ghost in the machine

mechanism? What else is the materialized soul substance like the ethereal Force in Star Wars that keeps its heroes around for generations as filmy essences. We are either souls or machines. But never simply animals. Roger Ebert in a critique of the most recent Star Trek film complained about how every alien looked like a human with a very bad nose job or forehead implant. Even these can be sexy, however, because the rest of the body is the typical Hollywood human commodity. But fur, a tail, scales?<sup>13</sup> We must go back to those marginal bug/lizard/fish-like aliens in Star Wars, where such imaginary beings are present to amuse or to disgust. Where the need for them to speak forces the writers and animators to give their animal-creations some humanity, they opt for racial stereotypes – Jar Jar Binks being critiqued most often in this respect.<sup>14</sup>

Machines, like spiritual beings, sustain our hopes for immortality in a way that recognizing our animality will not. Review your knowledge of *Lord of the Rings* humanoids (my thanks to Josh Goldsmith for pointing this out), where the best people, the Elves, are the most ethereal and the worst, the Orcs, come from dirt, grime and mire and can barely talk – are bipedal beasts.

We suffer from Protoplasmaphobia. Robotical nature, on the other hand, is modular, hierarchically structured, controllable. Potentially, every mechanical device is immortal, for as parts malfunction, new parts can replace them. A major reason that the Human Genome Project has been greeted with such a groundswell of support surely has to do with its promise to prolong our lives, and this promise sits upon the assumption that genes are replaceable parts. That is, if you look at us as gene machines, the implications

are pretty dire (no autonomy or responsibility) until you realize that some day those genes could be replaced one suite at a time, while you can still be you. Taking this position, then genes are, in effect, machine parts, micromodules, as it were. Being protoplasmophobic, we also suffer from Module Envy. Do not think that cloning represents an escape from mechanism, then; rather, cloning takes mechanism all the way down to the cellular level. *AI* and *GATTACA* represent the same longing.

Machines and souls have one thing in common: they promise immortality and they therefore coax us to reject or at least to downplay what is right before our eyes; namely, the fact that we have such organs as eyes.

#### IV

We think we have already been there and done that. You are probably wondering now. What about Darwin? Didn't Darwin argue that we are just animals, and haven't we already assimilated that stuff? Well, no. That is the way with cultural repression. We are encouraged to think that the very idea we refuse to take seriously is obvious. Let us look at the history the other way 'round. *It is not until* the late 19<sup>th</sup> century with the "founders of discursivity" as Michel Foucault calls them, that we find thinkers dealing with human animality seriously and abandoning, or at least bracketing, the mechanical metaphor. Darwin, Marx, Freud, and Nietzsche all begin their various enterprises with the assumption that any human act is an animal act, full stop – and then go on to examine the implications. Of course, they all will distinguish humans from, say, chimpanzees but their distinctions tend to be material and matters of degree, not of kind. Of these four, Freud

succumbs to the mechanical metaphor in his metapsychology, and Marx rarely appeals to human nature, animal or otherwise, after his early period. Only Darwin and Nietzsche make animality a major theme or problematic in their works. I believe you can read Darwin's 1873 *Descent of Man* and Nietzsche's 1887 *Genealogy of Morality* as the same project, but that story is for another day. Of these two, only Nietzsche tries to imagine in any detail how our mentality could and should be animal. That is, Nietzsche actually tries to give an account of how our lives would change, our thoughts about ourselves differ, by thinking through our animality.

Both Darwin in England and Nietzsche in Germany lived in the age of metropolitanization of their respective locations. Beasts of burden were to be seen less and less, their mechanical surrogates more and more, and the neighborhood butcher began to yield to slaughterhouses. Just as Darwinism began to make elites aware of their kinship with mammals, these same mammals started to disappear from bourgeois life. Machines took their places, except, of course, as pets and as dinner. Animals, then, were no longer needed as organic batteries and, though it takes well into the 20<sup>th</sup> century to extinguish labor animal presence in the cities, their prominence begins to diminish in the lifetimes of Darwin and Nietzsche. Although it would be hard to prove causality, the metropolitan taste for viewing exotic animals in zoological gardens seemed to wax at the same time as the waning of more demotic animal presence in the cities – horses, cows, chickens. And both occur, at least for elites aware of such a change, at the dawn of Darwinism.

In other words, two salients happen at roughly the same time: the distancing of animal life from daily human work and the development of powerful scientific arguments detailing the extent of our animality. Into this succulently ironical ideological moment, Nietzsche writes himself into the philosophical matrix.

In virtually every decade after Nietzsche's death, a new and influential interpretation of Nietzsche has appeared. The most notorious, Nietzsche as Nazi and Antisemite has been the most thoroughly undermined with the advance of scholarship and better editions of Nietzsche's work, and, paradoxically, the further we got into the 20<sup>th</sup> century the more his works were mined for their liberatory potential. Though the biological Nietzsche might have harbored attitudes toward women and other oppressed groups that tended to be typical of his period and class, the authorial Nietzsche can be used, has been used, to fashion powerful critiques of such prejudices. I would claim that the engine of that liberatory current in Nietzsche's thought is precisely his call to view ourselves as animal bodies, not entities that can be saved from our animal lives and animal suffering by grace or biotechnology.

In his early work on Schopenhauer in *Untimely Meditations* -- which was published within a year of Darwin's *Descent of Man*—Nietzsche asserts that there is no species difference between humans and animals. Most humans ARE animals but some few humans can overcome their animality. Those who succeed in becoming “no-longer animals” are “artists, philosophers, saints.” In other words, only certain sublimely heroic humans make themselves more than human animals. The rest of humanity is apelike. Or

at best, “animals whose nature has not been fixed” as he calls truth seekers in *Beyond Good and Evil* (#62)

In *Thus Spoke Zarathustra*, published almost a decade later than *Untimely Meditations*, Nietzsche enshrines this distinction between beasts and saints. “Humanity is the bridge between beast and what he calls *Übermenschen* or Overpersons.” Overperson here is the contemporary rendering of the German *Übermensch*, which the Nazi’s used as “Superman.” But for Nietzsche, an *Übermensch* is a person who has overcome herself, not somebody or some race that overcomes others. Overcoming yourself was a supremely difficult and complex task for Nietzsche, and he is not certain that anybody has completely accomplished it.

What is the ape to a human? A laughing-stock or a painful embarrassment. And a human shall be just that for the overperson: a laughingstock or a painful embarrassment. You have made your way from worm to human, and much in you is still worm. Once you were apes, and even now, too, the human is more ape than any ape.” (Prologue, #3, p.12).

Nietzsche’s hero in *Thus Spoke Zarathustra* is a stand-in for the highest expression of humanity yet achieved but he is clearly on the animal side of the great human divide between beast and *Übermensch*. In this respect, Zarathustra stands-in particularly for Nietzsche in that both have a way of bridging the gap but cannot themselves and wonder if it would be possible to instantiate the *Übermensch* ideal with any human living today.

What is that ideal? What do you have to do to lift yourself above all human animals?

You have to reject the possibility that you can have a life beyond the one you are now living. You have to overcome that desire for immortality that has so captivated humans for millennia that they go to such drastic lengths to imagine themselves beings without bodily/animal limitations.

Insofar as you realize that you are this body, this life, and only this body and this life are you emancipated from what Nietzsche calls the morality of the herd. If you truly love your fate (*amor fati*), you will have overcome your desire to get out of your skin; you will really live your life as a “clever animal,” and not hope for more, since hoping for more is cowardly.

It was suffering and incapacity that created all after-worlds – this and that brief madness of bliss which is experienced only by those who suffer most deeply.

Weariness that wants to reach the ultimate with one leap, with one fatal leap, a poor ignorant weariness that does not want to want anymore: this created all gods and afterworlds. (“On the Afterworldly”)

Does Nietzsche mean to reject the possibility of soul or of renewable software?

Scholarly opinions differ here. In my view his reasoning can only take him to say: hoping for emancipation from your current life, for another chance at life, as it were, is a failure of nerve, a refusal to confront and live the only life you have, one in a mortal body.

Nietzsche presses for the acceptance of our bodies -- organs and all. He never marshals



an argument that we don't have souls or that we couldn't replace ourselves part by part similar to the creatures Descartes and LaMettrie imagined we could become. He only shows that it would be cowardly and life-denying – he even calls it decadent – to do so.

So we come to this crowning paradox of Nietzsche's thought: the greatest height of human consciousness would be to realize that we are animals that have overcome our desire to be something else. The *Übermensch*, or Philosopher of the Future, lives her life in her skin and would do so over and over again in the same way, because she loves her fate.

Nietzsche is not the answer to all questions, that's for sure; he is usually more irritant than salve. He has merely worked this particular issue out further than most, even further than Darwin. Darwin got us thinking about how we primates could evolve to farm, make gazebos, herd sheep, think of ourselves as souls, develop antibiotics, make computer programs that read and write, make war, and mathematically prove the existence of antimatter. He did not show us how to view ourselves as doing all of this AS animals, or what it would cost us to do so.

Michel Foucault, a thinker in whose pedigree Nietzsche figures significantly, capsulized Nietzsche's complex doctrine of animality. Plato in the *Phaedo* said that the soul is the prisoner of the body. Foucault, representing Nietzsche in this case, reversed the polarity: our animality, our bodies have been the prisoner of the concept of soul, and, I would add,

of machine. Both concepts have been used to take us out of ourselves. It's time to come home and begin the project of thinking ourselves into our own skins.

## ENDNOTES

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<sup>1</sup> Gaby Wood, *Edison's Eve: A Magical History of the Quest for Mechanical Life*. New York: Alfred A. Knopf, 2002. pp. 21-22.

<sup>2</sup> See Lesley Chamberlain, *Nietzsche in Turin: An Intimate Biography*. New York: Picador, 1996, Chapter 11.

<sup>3</sup> Plato, "Phaedo" 80b, in *Five Dialogues*. G.M.A Grube, trans. Indianapolis: Hackett, 1981.

<sup>4</sup> Gilbert Ryle, *The Concept of Mind*. New York: Barnes and Noble, 1949, p. 15.

<sup>5</sup> Umberto Eco and G.B. Zorzoli, *A Pictorial History of Inventions*. London, 1961. Quoted in Gaby Wood, *Edison's Eve: A Magical History of the Quest for Mechanical Life*, p. xvii.

<sup>6</sup> L. Cosmides and J. Tooby, *What is Evolutionary Psychology? Explaining the new science of mind*. New Haven: Yale University Press, 2001. D. Buss, *Evolutionary psychology: New science of the mind*. Boston: Allyn and Bacon, 1999.

<sup>7</sup> H. Plotkin, *Darwin machines and the nature of knowledge*. Cambridge: Harvard University Press, 1994.

<sup>8</sup> See David C. Geary and Kelly J. Huffman, "Brain and Cognitive Evolution: Forms of Modularity and Functions of Mind," *Psychological Bulletin*. Vol. 128 (2002), No.5, 667-698.

<sup>9</sup> Deacon, T.W. *The Symbolic Species*. New York: Norton, 1998.

<sup>10</sup> See David Sloan Wilson, *Darwin's Cathedral: Evolution, Religion, and the Nature of Society*. Chicago: University of Chicago Press, 2002, p. 26 and references there.

<sup>11</sup> Sigmund Freud, "The Uncanny," in Peter Gay, ed. *The Freud Reader*....

<sup>12</sup> My thanks to my student Wesley Phelps for this insight and for others about film that do not formally appear here.

<sup>13</sup> My student Adam Hutchinson has suggested that animals used in children's programs bear close examination under an ideology-critical focus.

<sup>14</sup> I'm indebted to a student in our English Department, Josh Goldsmith, who directs me to *The Ring Trilogy* for another view of animalized humans and humanized others. Ents and Elves must be material for an expansion of this part of the paper.