

machines, which will be more and more autonomous. We should take heed of the fictional examples ranging from *I, Robot* to *Transformers*, and ensure that even while we cannot guarantee that we engineer good into our machines, we engineer them as well as Optimus Prime and Bumblebee.

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Freedom Is the Right of All Sentient Beings

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The *Transformers* television series and toys were, as far as I can remember, my first encounter with science fiction. In *Transformers*, the human characters are confronted with the reality of an alien robotic civilization. The 1986 movie, which serves as a bridge between Seasons Two and Three of the series, was set in 2005 and the 2007 live-action movie was set in the present-day.

We viewers are ourselves confronted with the possibility of encountering an alien civilization based on artificial intelligences. Consider the vast interstellar distances that members of an alien civilization would have to travel to meet us. Consider also the relative slowness and the rigors of space travel. Any alien civilization we meet is likely to be very advanced scientifically and technologically. Unless they find a way to bend, break, or circumvent the limit that the speed of light places on space travel, we might be more likely to encounter artificial intelligences created by another biological species or beings who have traded biological life for artificial life.

What might such beings be like? We take it for granted that human beings are capable of being moral and that they should be. But will an alien robotic civilization develop or have any need for morality? If so, what kind of moral code might they have? Is it possible for our two or more species to live beside one another in peace, to co-operate and trade with one another rather than to make war and subjugate or destroy one another? If such alien artificial intelligences were superior to us in every way, what benefit could they possibly derive from associating with us? Why not ignore us, or enslave us, or destroy us instead?

Provided the alien artificial intelligences in question are sufficiently intelligent and possess volition, that is, a relatively human degree of free will not bound by rigid programming as non-human animals are by their instincts, then they will possess a moral code or codes. For all we know, they may even be more consistent in sticking to them than we humans tend to be. I am even hopeful that they *can*, though not necessarily will, have a moral code that is compatible with living in peaceful and mutually beneficial co-existence with us. Crucial to such an interspecies relationship is the mutual recognition that we each possess equal and absolute individual rights to life, liberty, and property. In the 2007 live-action *Transformers* film, Optimus Prime, leader of the Autobots, says, "Freedom is the right of all sentient beings." What reason could he have for believing this?

I think that the political philosophy of Aristotelian liberalism is best able to answer this and the other questions I have posed. Aristotelian liberalism synthesizes what are arguably the best aspects of Aristotle's philosophy with what are arguably the best aspects of the political philosophy of liberalism, particularly of its classical liberal roots and its modern libertarian incarnations. From Aristotle we draw on an ethical theory focused on the natural end that all rational beings pursue: a life of well-being or flourishing. Integral to a flourishing life are certain goods and virtues that we must pursue and possess which are determined by the particular kind of being we are. From liberalism we draw on an understanding of natural rights, including their importance both to our own individual flourishing and to bringing about and maintaining a free and flourishing society.

But, even if these ideas are true for human beings, what would make us think that they are true of all rational beings as well? Even of intelligent alien robots like the Transformers?

Flourishing, Virtue, and Artificial Life

Aristotle began his great treatise on ethics by observing that the good is "that at which all things aim."¹ This is an irrefutable conceptual truth. Anyone who attempts to deny it necessarily accepts its truth in so doing, for he who seeks to deny the claim that 'the

good is that at which all things aim' is himself aiming at an end he necessarily perceives as worth attaining (an apparent good)—proving the claim to be wrong.

The important question is, what is the good? Or rather, which things are good and which are bad? When we ask whether something is good or bad, we are compelled to ask also: good (bad) for whom? and for what? When we say that food is good, what do we mean? Do we mean that food is good, period? No. What we mean is that food is good *for us*. And it is good for us for the reason that we need it in order to survive and because, if it is tasty, we usually enjoy eating it. Not all food is equally good for us, however. In fact, what counts as food for us depends on the kind of beings we are. Some animals can digest things that we cannot. What suffices as adequate nutrition for a plant will not suffice for human beings. We require particular amounts of certain kinds of nutrients and minerals not only in order to survive but, more importantly, to flourish. Moreover, while a certain amount of something, such as carbohydrates or certain fats, may be good for us, too much can be unhealthy. What's more, just as there are differences in food requirements between species, so too are there differences within species between males and females, different body types, different lifestyles, and so forth. Thus, goodness or badness is something that depends both on the thing in question and on universal and particular aspects of individual moral agents, it is not something that just exists independently.

Transformers also need some source of energy to fuel their bodies. The source of energy they depend upon is called Energon, in its raw form a type of crystal ore. In order to use it for fuel or other purposes the Transformers need to process it. This requires creativity and labor. Like our food, the "food" of the Transformers is scarce and requires effort to obtain and use. We need ethical principles and legal rules to guide and regulate our actions toward each other with respect to food, and all other scarce things we need or want, and so do the Transformers. And so will any rational artificial life-forms.

Morality is a code of values and principles that serves to guide our choices and actions both when we're alone and with respect to other people. Morality pertains only to matters of choice, for we can only rightly be praised or blamed for that which is in our power to control. All of our choices and actions are taken to pursue some end or other. The very fact of life necessitates the employment of scarce means, such as time and resources, to

¹ *Nicomachean Ethics*, Book I, Section 1, line 1094a3.

achieve certain ends. All life is conditional, even artificial life. We must act, and act wisely, in order to maintain and further our lives. So life both makes possible the existence of values and makes it necessary that we pursue them. It is our ultimate and natural end, that for the sake of which everything else is done.

Any code of morality needs a standard for judging what actually counts as a value (or a good) and what the proper means are for pursuing it. There is no better standard of value than that for the sake of which we make every one of our choices and actions. Our natural end, life, is our standard of value. This will be as true for artificial life-forms as it is for biological life. But while there are universal characteristics of life shared by all forms of life, there are also important particular differences between biological species, between biological and artificial life, and between different types of artificial life.

I have suggested that what I mean by life as one's natural end and ultimate standard of value is not mere survival but a life of flourishing. It's not enough, surely, merely to survive. On the face of it mere survival seems an awfully thin reed on which to hang the whole of morality. Everything and everyone would be reduced to being a mere means toward the end of survival. Even if there were a set of rules based on this standard, which one could follow, that would be both conducive toward long-term survival and correlate well with a fulfilling, moral life, the explanation still seems a shallow and unconvincing one. Do we love our friends and family merely because doing so is conducive toward our long-term survival? Moreover, what robust reason, or what reason at all really, could a mere survival standard offer for giving one's own life to save the life of a loved one, for instance? Even those who do choose death, such as a hero or a suicide, must necessarily see a life ending in the time and manner of their choosing as being preferable to a life ending in a different time and manner. In other words, a mere survival standard is inadequate for explaining the choice to die and even those who choose death must necessarily hold a flourishing life as their standard of value.

What is meant by a life of flourishing or well-being is health and development to maturity. As Philippa Foot points out, we determine what counts as flourishing the same way for humans as we do for plants and other animals. "The structure of the derivation is the same whether we derive an evaluation of the roots of a partic-

ular tree or the action of a particular human being. The meaning of the words 'good' and 'bad' is not different when used for features of plants on the one hand and humans, on the other, but is rather the same applied, in judgments of natural goodness and defect, in the case of all living things."²

When it comes to more complex life, particularly rational life, determining what is good and bad becomes more complicated and fraught with controversy, but it is nevertheless the same procedure in essence. The same can also be said for intelligent artificial life. To clarify further what is meant by a life of flourishing, some shallow goods and virtues can serve as mere means to the end of survival but with the flourishing standard, the various goods and virtues are conceived as being *parts of* a life of flourishing rather than something external to it. An example of this notion may be how buying a guitar is external to playing Stan Bush's "The Touch" while playing particular chords in a specific arrangement is part of what it means to play the song.

Bearing all of the foregoing in mind, let us turn to exploring some of the goods and virtues of which human flourishing consists, and to speculating about the nature of flourishing for artificial life-forms. We can start with the easier stuff first and revisit the point that life is conditional. Physical health is one good, necessary not just to make continued survival more likely but also for well-being—health is a natural state, and we derive enjoyment from it as well as from the things it enables us to do. We've discussed the fact that just as humans need fuel for their bodies so too will artificial life-forms. If organic life-forms do not eat enough food their functioning will become impaired and eventually they will die. The same will probably be true of artificial life. However, most if not all organic matter decays quickly; the same will probably not be true of whatever comprises an artificial life-form's body. Thus it may be possible to revive an artificial life-form after years, decades, or even longer, of its being without power; but even non-organic parts decay over time and so death by starvation still seems possible for artificial life. The ability to produce or acquire energy, as well as the tools useful for this purpose, will therefore be highly valued not only for this aspect of good health but for all the other things for which energy can be used.

² Foot, *Natural Goodness* (2001), p. 47.

Organic life is generally very fragile, highly vulnerable to injury and disease. While artificial life is likely to be far more durable, it will not be immune to such threats and may possess some weaknesses that organic life does not. Consider one such vulnerability somewhat amusingly dramatized in the *Transformers* cartoon:

STARScream: It looks like some kind of . . . rust!

MEGATRON: Impossible! We are rust-proof!

STARScream: Perhaps you're made of shoddy materials, Megatron!

MEGATRON: That's ABSURD!

Even artificial life can suffer from the equivalent of ill-health. Even artificial life can be damaged, sometimes beyond repair, or even destroyed. For these reasons weapons, armor, and shields of some kind as well as tools for the diagnosis and repair of damage, and the skills necessary for employing these things, will be of value.

As rational beings we observe things in the world and develop abstract ideas, or concepts, that refer to them. These concepts and their interrelations form the basis of our knowledge about the world. Knowledge does not come automatically to us. We must actively seek it out by observing the facts of reality, abstracting from them and integrating them into concepts, theories and stories about the world. We are neither infallible nor omniscient, and so we can make mistakes or even willfully evade the truth.

Accurate knowledge and good judgment are vital to improving the chances of our continued survival but more importantly also to improving our quality of life. It's the continual accumulation of knowledge that has enabled our species to develop from a primitive rock-and-spear-wielding, cave-dwelling existence to one that is today marked by an abundance of food, advanced medical care, plentiful clothing and comfortable shelter, instantaneous communication and swift transportation around the globe, and explorations into outer space. In light of this, intellectual ability and intellectual pursuits are valuable, although not everyone need specialize in scientific or other academic disciplines. Any alien artificial life-forms we happen to encounter in the near future will share these limitations and needs even though they will likely be more advanced scientifically and technologically than we are, and so they will probably value these things highly as well.

We have so far discussed a number of final goods or ends that comprise a life of flourishing—health, wealth, reason, intellectual ability and pursuits—as well as some of the intermediate goods that contribute to them. We can now identify some of the virtues that tend to produce these goods and that, being valuable in themselves, are also a part of flourishing. We can follow Aristotle in distinguishing between intellectual virtues on the one hand and moral virtues (traits of character) on the other. One reason to do so is that it helps to avoid intolerant moralizing about intellectual error. It's not necessarily a moral failing to make a mistake, hold incorrect ideas, or have poor math skills, for example. Among the intellectual virtues, and here I am not sticking precisely to Aristotle's list, are technical knowledge and skill, scientific knowledge, philosophical wisdom and knowledge, and practical wisdom (or prudence). Practical wisdom might be considered the master virtue, for it is the integrator of all the goods and virtues into a complete life and it guides the proper application of the other virtues. Aristotelian prudence is not pure, calculating prudence, however; while the moral virtues without practical wisdom are blind, practical wisdom without the moral virtues is empty.

And what moral virtues are central to a flourishing life? Well, assuming that our alien visitors are individual, autonomous beings like us, then the virtue of independence is one they might and should cherish. While many critics of liberalism fear the development of an excessive individualism and of a "me! me! me!" attitude that will lead to the breakdown of social cohesion and cultural norms, the human propensity to fall in with the herd is much more worrisome and prevalent. The virtue of independence recognizes that we are separate persons with our own minds that we must use to make decisions. It means that if we are to live a flourishing life that is our own, we must take the responsibility to think and work for ourselves rather than abdicate this responsibility to others. The virtue of integrity touches on this responsibility too. It means endeavoring to have a consistent set of principles and holding to them whatever temptations one might face, be they other people, unfortunate situations or one's baser inclinations. In a social context, it also means keeping one's promises; other people make plans in the expectation that you will do so.

Another important virtue is honesty. While honesty does in part mean that it is generally right to tell the truth and wrong to lie, it has a more fundamental meaning that is relevant here. Philosophers

novelist Ayn Rand argues that, given the way we as rational beings acquire knowledge, and given our fallibility and facility for engaging in willful evasion, honesty means "one must never attempt to fake reality in any manner" (to himself or to others).³ And this involves not attempting to acquire values via fraud and not shying away from the facts, including one's proper hierarchy of values. If our alien artificial beings are capable of some analog to human emotion, or if they have an equivalent to a relatively opaque subconscious as do we, where automatic mental processes take place, then they too may be capable of evasion and self-deception. Even if they are not, they may still be capable of acting without principles and of deceiving others. So we have reason to expect that the virtue of honesty can and should be part of their flourishing as well.

And then there is the virtue of courage. Courage is the proper response to fear and potential harm. Fear is a very useful survival mechanism but even if our artificial visitors lack an analog to human emotion, the part about potential harm will still be relevant to them. They will still have to make risk assessments balanced against the value of the ends they aim to achieve and the requirements of the other virtues. Being too risk averse—being cowardly—can lead to frequent failure to achieve their ends as well as to fully exhibit and properly apply the other virtues. Being too insensitive to risk—being rash—can lead to the same problems in different ways.

We have also seen that productive work is necessary both for survival and flourishing. Our previous focus had been on the role of productive work in producing and acquiring fuel for our bodies, weapons, defenses, clothing, shelter, and other useful tools that better our chances of survival and improve our quality of life. As valuable as productive work is for creating these things, it serves another useful function as well. It also, chosen wisely, provides us with a sense of purpose, a core personal identity with which to integrate and determine the hierarchy of all our other values. Hence, productiveness too is a virtue, and an important one at that. Rational beings are also capable of communication and conscious, purposeful cooperation. For human beings, at least, being social and political beings is also part of what it means to be a ratio-

nal being. We are born in a social environment. We derive enjoyment from being in the company of other human beings who share our ideas and interests. We acquire much of our knowledge from other human beings. We depend on exchanging the values we produce for the values others produce in order to survive and flourish. Social existence enables the division and specialization of labor responsible for the continual expansion of knowledge and economic progress that we benefit from today. We naturally form into groups to co-operate in the pursuit of shared ends. A solitary existence is dangerous and impoverished in comparison to a social existence; imagine having to live off of what you alone could produce without modern tools, having to protect yourself from predators and natural disasters without any help and with only what weapons you can make yourself, having to treat your own injuries and illnesses, and what will happen as a result of your being less able or unable to defend yourself and provide for yourself when injured or sick. Together we accomplish much more, and live much better lives, spiritually and materially, than we would alone. Most or all of these things will probably be true of alien artificial intelligences as well. With the Transformers, we see all of these aspects of a social and political nature; the Autobots and Decepticons are opposing political organizations with a leader and other members who each possess specialized knowledge and abilities that suit their role within their respective group.

There are a number of virtues made possible and required by human social existence to which an artificial intelligence civilization could well have analogs. Some of the virtues we have already discussed have readily recognizable social dimensions. Other important social virtues include benevolence and several more that can be subsumed under it: sensitivity, generosity, civility and tolerance. Benevolence means having a habitual disposition of goodwill towards others. Sensitivity involves being alert to the interests, feelings, concerns, needs and so forth of others, particularly our friends and family. Generosity is that virtue in which we give of ourselves to others out of a sense of fullness or overflowing, without any expectation of receiving anything definite in return. Civility involves being polite and courteous in myriad ways and the virtue of tolerance involves enduring ideas or practices with which we disagree. It's easy to see how these virtues serve to grease the wheels of social relationships, so to speak, while their lack can cause friction and even grind cooperation to a halt. Civility and tol-

³ Rand, "The Objectivist Ethics," in *The Virtue of Selfishness* (1964), p. 28.

erance, in particular, are also necessary for the joint pursuit of truth because they facilitate open discussion and debate.

The Law of Association

At this point you may be thinking, "All right. I buy that there are good reasons for thinking that an alien race of artificial intelligences will probably have some sort of moral code that enables peaceful co-existence and mutually beneficial cooperation among themselves. But what reason do we have to think that they will have a moral code that will allow such a relationship between them and us?" Well, for one thing, given the understanding that the basis for morality lies in a being's capacity for rationality, I can think of no coherent reason to treat only one's own species, rather than all rational beings whatever their species, as moral agents worthy of respect as persons. More can be said about this but perhaps you will find an appeal to material self-interest to be more reassuring. Economic theory tells us that even an individual or group that is more efficient in every way than another individual or group can benefit economically from co-operation. The English economist David Ricardo originally expounded this law in 1817 in his theory of comparative advantage (or comparative cost). The great economist of the Austrian School, Ludwig von Mises, however, has argued that Ricardo's law of comparative advantage is but a particular instance of a more general law as it is applied to the problem of international trade; Mises dubbed this the law of association.³

The Law of Association might not hold if the aliens in question were so superior to us in every way that we were no more significant to them than ants, but barring this they could derive some material advantage from trade with us. To illustrate the law, let's use as an example the Autobot medic-mechanic Ratchet and a human I've just made up named John Smith. Both Ratchet and John are capable mechanics and also capable of building their own tools and parts. Suppose that Ratchet is a much better mechanic than John, however, and can earn \$10,000 per hour as a mechanic but only \$1,000 per hour making and selling the tools and parts a mechanic needs for his craft. Suppose also that John could earn

\$100 per hour as a mechanic or \$500 per hour making and selling the tools and parts a mechanic needs for his craft. Ratchet is a hundred times more efficient than John as a mechanic and twice as efficient than he is as a maker of tools and parts. Perhaps they both plan to work twenty hours per week and divide their time equally between doing mechanic work and making tools and parts. Their total output would look like this:

RATCHET: 10 hours mechanic work X \$10,000 per hour =

\$100,000

10 hours making tools and parts X \$1,000 per hour =

\$10,000

Total output: \$110,000.

JOHN: 10 hours mechanic work X \$100 per hour = \$1,000

10 hours making tools and parts X \$500 per hour = \$5,000

Total output: \$6,000

Between them Ratchet and John have produced \$116,000 worth of output. Now let us examine what the situation would be if Ratchet focused exclusively on working as a mechanic while John focused exclusively on making tools and parts.

RATCHET: 20 hours mechanic work X \$10,000 per hour =

\$200,000

Total output: \$200,000.

JOHN: 20 hours making tools and parts X \$500 per hour =

\$10,000

Total output: \$10,000

The total output that Ratchet and John can produce has risen to \$210,000. Even more importantly, both Ratchet and John are individually better off. John, who was worse at both jobs, was able to nearly double his output; likewise Ratchet, who was better at both jobs. This analysis we have applied at the individual level involving only two actors can be applied by straightforward extension to groups, to international trade, and even to interstellar trade. This means that it's possible, even likely, that humans and artificial life-forms can live in peace with one another and benefit from co-operation, competition, and trade.

³ See Mises, *Human Action: A Treatise on Economics* (1949, Scholar's Edition 1998), pp. 158–163; <http://mises.org/resources/3250>.

All right, so trade is more beneficial than doing everything yourself. But what about war? Why not just invade us, enslave or destroy us, and plunder our resources? To continue the appeal to material self-interest: war is an incredibly costly undertaking. A war is bound to result in massive loss of life, quite possibly on both sides even if they are more advanced than we are. While we are physically weaker than the Transformers, for example, we can and do make up for it, at least to a degree, with technology. Remember the exo-skeleton Daniel uses in the animated movie? And the sabot rounds used to good effect against Scorponok in the live-action movie? Even if we don't stand a chance, military expenditure is costly. It diverts creativity, labor, capital, energy and other resources away from productive uses into dead-end assets. A war would result in destruction of human lives and capital and, to the extent that it does, our attackers will lose the benefits they otherwise would have gained through trade. If they commit xenocide, purposefully causing the extinction of our species, all they will have gained will be the resources of our planet and whatever remains of our creations to be salvaged. If they enslave us, then they take on the burden of clothing, feeding, sheltering and training us, of directing our labor, and of suppressing the inevitable rebellions. When you think seriously about it, and presumably advanced artificial intelligences will be able to think very well, is war really worth it? On the other hand, ignorance of economic principles is not the only reason people might choose violence and war over peace and trade, so let us now turn to a discussion of liberty and justice.

Liberty, Justice, and the Autobot Way

Justice (which is both a good and a virtue) and liberty are of central importance to political philosophy. To the extent that they are absent, a life of flourishing and a free and flourishing society are made impossible. As it is conceived in the classical liberal tradition, liberty is freedom from aggression; more precisely, liberty is freedom from the threat or use of initiatory physical force. The act of coercing someone with the threat or use of physical force—such as by violence, murder, fraud and naked theft—imposes the aggressor's desires, interests, preferences, choices, actions, on the victim without his consent. To the extent that this occurs, the victim exists not for his own sake but for another's: his desires, interests, pref-

erences, choices, actions, are no longer truly his but are alien to him. More to the point, to the extent that this occurs his actions are not self-directed. A person being physically coerced by another is not able to make the choices and take the actions he judges necessary for the maintenance and furtherance of his life. And he is not being respected as a person.

In the Aristotelian tradition, remember, morality is a matter of choice. For an action to count as virtuous it must be done freely, by choice, both for the right reasons and because it is desired. Thus, it is not enough simply to possess the goods, and it is impossible to possess the virtues, one needs in life without self-directed action. In other words, an act of mine does not count as virtuous and therefore contributory toward my flourishing if you force it upon me, even if it otherwise would have contributed to my flourishing had I desired and freely chosen it for the right reasons. To the extent that one's liberty is infringed upon, one is unable to flourish.

The importance of free choice is recognized several times in the 2007 live-action *Transformers* film. Consider this exchange involving Bumblebee, who during most of the movie had been unable to speak because of some damage inflicted by Megatron in the back story:

BUMBLEBEE: *[fully repaired]* Permission to speak, sir?

OPTIMUS PRIME: Permission granted, old friend.

SAM WITWICKY: You speak now?

BUMBLEBEE: I wish to stay with the boy.

OPTIMUS PRIME: If that is his choice.

SAM WITWICKY: Yes.

And here's another, from an exchange between Optimus Prime and Megatron while they fought:

MEGATRON: Humans don't deserve to live!

OPTIMUS PRIME: They deserve to choose for themselves!

MEGATRON: Then you will die with them! *[throws Prime away and primes his cannon]*

MEGATRON: JOIN THEM IN EXTINCTION!

What the liberals bring to the table, as a matter of political justice, is a greater recognition of this central importance of liberty and a more consistent protection of liberty in the form of an ethical, political, and legal principle: the right to liberty (and all of its corollaries and consequences). A right is a legitimately enforceable moral claim against the prior obligation of others not to threaten or use initiatory physical force against you. Not all the moral claims we have on the obligations of others are legitimately enforceable via the law or vigilantism. In the liberal tradition, only the moral claim to freedom from aggression can be consistently upheld as legitimately enforceable. The rights to life and property are two of its corollaries. A right to liberty is a right to a life of our own. And our right to liberty cannot be exercised if we are not allowed to keep and use the fruits of our labor as we see fit, provided we do not use our property to violate the equal rights of others to their own life, liberty, and property.

But so far we have not gotten deeply enough into the reasons, at the level of personal ethics, for why rational beings have rights and why we must respect them. I have said that our rights derive from a prior obligation of others. What gives us this obligation? Ultimately, what gives us this obligation not to aggress against others is our obligation to pursue a life of flourishing. To put it in a nutshell, since we are rational, political, and social beings, we ought to deal with other such beings through reason, discourse, persuasion, and co-operation (except when necessary to protect our own right to liberty, or the rights of others), rather than through violence and force. To do so is a matter of justice.

Consider the virtue of justice; it means accepting and granting the earned and deserved, and never seeking or granting the unearned and undeserved.⁴ What do other rational beings deserve from us? Again we can look to Aristotle for some illumination. Aristotle argues that justice is complete virtue practiced in relation to others and because of this it is the greatest of the virtues. In other words, what other rational beings deserve from us is for us

to possess integrity, to be prudent, independent, honest, productive, brave, benevolent, sensitive, generous, civil, tolerant, and so forth. We owe virtue first and foremost to ourselves, and because we are political and social beings we owe virtue to others as well. Virtues are not rigid rules, however, they are abstract principles and traits of character whose proper application is highly dependent upon context. While the virtues are, in the abstract, universal principles, Aristotle reminds us that what virtue demands of us will depend on our talents and abilities, the cultural traditions we accept (so long as they do not contradict what our nature as a human being (or artificial intelligence) demands of us), our particular circumstances and the particular conditions at the time of action.

Finally, we may follow Aristotle in his wisdom in another way. He makes a useful distinction between what he calls general justice and particular (or special) justice. General justice is, for Aristotle, the complete virtue we have just been discussing. Particular justice pertains more to political matters, such as violence, theft, fraud, and the like. With some tweaking, this distinction can be adapted to the liberal conception of justice and rights. An Aristotelian liberal must disagree with Aristotle that it is just that the law be used to require all virtue and prohibit all vice. The only vices that we recognize as crimes are those that involve aggression—those that involve the violation of rights. We also recognize that even particular justice is informed by all of the other virtues as general justice is. So an Aristotelian liberal sees particular justice as pertaining to what I earlier called political justice, which involves protecting the right to liberty and rectifying violations of it. Aristotelian liberals see general justice as pertaining to obligations we have to others that are not legitimately enforceable. To keep the difference between the two types of justice clear, it will help to rename them: 1) We have political justice which pertains to rights and is legitimately enforceable. 2) And we have social justice which pertains to our other moral obligations to others and is not legitimately enforceable.

Will alien artificial intelligences possess such a moral code as I have described and recognize us as persons, granting us the promissory respect we deserve in the name of political and social justice? Will we do likewise for them? There are no guarantees, but there is reason to hope that they will display the wisdom and goodness of Optimus Prime, rather than the imprudence and evil of Megatron, displayed in the recent live-action film:

⁴ David Schmidtz argues that desert is not merely backwards-looking, given only as a compensatory reward; it can also be forward-looking, promissory: we can come to deserve something on the basis of what we do after receiving it. Deserving and earning are not interchangeable, however. Something can only be earned after the work is done. Nevertheless, it is possible to do justice to unearned opportunities. See Schmidtz, *Elements of Justice* (2006), pp. 31–70.

IRONHIDE: Why are we fighting to save the humans? They're a primitive and violent race.

OPTIMUS PRIME: Were we so different? They're a young species. They have much to learn. But I've seen goodness in them. Freedom is the right of all sentient beings. You all know there's only one way to end this war: we must destroy the Cube. If all else fails, I will unite it with the spark in my chest.

RATCHET: That's suicide! The Cube is raw power, it could destroy you both!

OPTIMUS PRIME: A necessary sacrifice to bring peace to this planet. We cannot let the humans pay for our mistakes. It's been an honor serving with you all. Autobots, ROLL OUT!

What better way to end this chapter than with more words of wisdom from Optimus Prime?

With the All Spark gone, we cannot return life to our planet. And fate has yielded its reward: a new world to call home. We live among its people now, hiding in plain sight, but watching over them in secret, waiting, protecting. I have witnessed their capacity for courage, and though we are worlds apart, like us, there's more to them than meets the eye. I am Optimus Prime, and I send this message to any surviving Autobots taking refuge among the stars. We are here. We are waiting.