



## **Galactic Empires and Interstellar Federations: Part II**

By  
Michael McCollum

Science fiction writers are supposed to be imaginative, right? If so, why is there such unanimity when it comes to prognosticating the development of human civilization out among the stars? Typically, once the colonization stage is over, star traveling humanity joins together to form interstellar associations. While individual planets may be either democracy or monarchy, these larger associations are generally built on the model of the United Nations. They are assemblies where the governments of whole star systems contend with one another, and they are usually described as an amalgam of republican democracy (U.S. model) and parliamentary democracy (British model). These larger associations are often described as “interstellar federations,” although there seems to be a competition among SF writers to come up with new and clever monikers to hang on the government they imagine.

*Star Trek's* isn't the first “federation” in science fiction. The “federation” of Heinlein's *Starship Troopers* predates Jim Kirk's by nearly a decade. Other interstellar “democracies” include Niven and Pournelle's CoDominion, my own Communion (a corrupted form of “Community of Nations”), and various hegemonies, republics, oligarchies, and technocracies. Whatever they are called, they are essentially a parliament of stars that spans everything from a small bubble of “known space” to an association that stretches all along our particular spiral arm of the galaxy.

Whatever their name, as these democratic “federations” continue to expand, they seem to grow less democratic. More often than not, as they become truly large, they take on the aspects of medieval Europe. Where voting was fine for the citizenry when the associations were small, suddenly feudalism begins to flower. Prime ministers and senators give way to dukes and counts. Presidents become kings, and congresses become courts. Nor does this evolution halt at the “kingdom” stage. The autocracies grow ever larger, until finally, they encompass a sufficiently large portion of the Milky Way to justify having “galactic” added to their names. And no matter what form of government a science fiction writer begins with, when writing about a government that is “galactic” in its span, it always comes out the same way. I can think of no “Galactic Republic” in all of science fiction, although there may have been one or two. No, there are some words that make natural pairs. Just as “bureaucratic” just begs to have “bullshit” tacked on in its wake, one can hardly say the word “galactic” without the tongue immediately following with “empire.”

What is it about galactic empires that so fascinate science fiction writers? Is it logical that humanity has in its future a vast star-spanning autocracy with the trappings of royalty and power beyond anything dreamed of by the Greek gods on Mount Olympus?

Are we really destined to be ruled over by an emperor, a mere man who will be acknowledged as the supreme sovereign of trillions of sentient beings inhabiting millions of planets orbiting stars too numerous to count?

There are differences in the treatment each writer gives the subject, of course. There are good emperors (Leonidis IX in *The Mote in God's Eye*), there are bad emperors (the fop who rules Dominic Flandry's decadent star-spanning civilization) and there are evil emperors (the green-faced horror from *Star Wars*). Whatever their personal failings, however, emperors are always supported by the Imperial Fleet, Space Navy, Marines, or Storm Troopers. These fanatic soldiers will stop at nothing to bring every planet in the galaxy under the emperor's dominion. Sometimes, this is viewed as a good thing (as in the works of Pournelle and Niven) and sometimes it is viewed as a bad thing (again, *Star Wars*).

Whether the empire be good or bad, however; whether the emperor wise or insane; whether the citizenry homogeneous human or heterogeneous human/alien; there is a similarity between all of these galactic empires that is difficult to miss. In fact, they are all sufficiently alike that we can easily identify the real-life empire after which they are modeled. Whether the author calls his or her capital planet Trantor, Arcadia, or simply Capitol, we readers know them all by a different name. We know that they are, in reality, Rome!

As we discussed in the last chapter, it isn't surprising that that Rome is the prototype for the galactic empires that have graced science fiction these past 75 years. Rome is unique in the history of western civilization. Indeed, it is Roman culture handed down through the generations that provides us with the very definition of what we mean when we say the words, "western civilization."

For example, much of our mythology comes to us from the Romans. That is why we name the planets after the Roman gods (Jupiter, Mars, and Venus) rather than the Greek originals (Zeus, Ares, and Aphrodite). Our language is peppered with Latin words and sayings. "Mediterranean" is purest Latin, as is "*e pluribus unum!*" and "*Semper fidelis*". Other words are also descended from the speech of the Romans, such as "viaduct" and "testify." (The derivation of the latter comes from the fact that swearing an oath in Rome required men to grab their family jewels in what today would be judged a rude gesture. Women couldn't swear an oath in Roman court. It wasn't that they weren't allowed; they just weren't equipped!)

Science fiction writers like the Roman Empire because it is uniquely suited to the sweep and breadth of science fiction. For like SF, it was bigger than life, having lasted some 1200 years in the West and nearly twice that long in the East. It is difficult for a modern person to grasp what it means for a nation or empire to hold sway for sixty generations! The United States has been a nation for only 12 generations. Of all the modern nations, only the United Kingdom of Great Britain can stake its claim to continuity going back 932 years, although the English government has changed hands numerous times since the Norman Conquest. The oldest nation that can make the claim of being a continuous political entity is, I believe, Switzerland.

We reviewed the reasons why Rome was so successful in the last chapter. The reason can be summed up in a single word: roads. By maintaining a military road system that was not equaled until nearly the twentieth century, the Romans were able to rush overwhelming force to every part of their empire whenever trouble broke out. This, plus

their highly disciplined fighting style, made them more than a match for their barbarian neighbors. Their longevity was helped, of course, by their custom of turning the captive peoples into Roman citizens within a few generations, thus building loyalty where previously none had existed. But without the roads on which to move the fast-stepping legions, they would not have lasted one-tenth as long as they did. Wherever the Roman roads ran, Rome ruled. Only when they encountered a natural barrier they could not penetrate (such as the Black Forest of Germany) did they not prevail.

Yet, despite science fiction writers' fondness for rewriting Gibbon's *Rise and Fall of the Roman Empire* out among the stars, the very concept of "empire" seems anachronistic to our modern age. After all, the Soviet Union, the Earth's last, great empire, has been in its grave for more than a dozen years. In fact, the red flag of the hammer-and-sickle was last lowered on Christmas day, 1991, hopefully never to be raised again.

The greatest of the modern empires was the British Empire. At its height, Queen Victoria's ministers boasted that "the sun never set on the British Empire." And, by the standards of the 18<sup>th</sup> and 19<sup>th</sup> Centuries, the British ruled with enlightened self-interest. At least, their former colonies seem to be more stable than the former colonies of say, France or Spain.

There were strong, practical reasons for the rise of empires, and equally compelling reasons for their downfall. Those reasons all involve economics. Rome and Britain both built their empires at a time when travel was difficult and lengthy, and bulk transportation either limited or nonexistent. The greater size of the British Empire is explained by the fact that 19<sup>th</sup> Century transportation was vastly superior to its 1<sup>st</sup> Century counterpart. Still, in both eras the world remained a patchwork of villages, cities, and small, weak political entities. They were eras when a single nation with a technologically advanced (for the time) army could conquer their more backward neighbors. Putting down rebellions, what the British disparagingly called "wog bashing," was much easier when the "wogs" were armed with shields and spears. It is more dangerous in an age when the natives all have AK-47 assault rifles and heavy artillery at their disposal.

What killed empires was the same thing that allowed them to exist in the first place, namely the ever-accelerating pace of communication and transportation. For an empire to exist at all, it must be able to communicate with the far-flung marches that are its borders. Lose that communication, as the Romans did in Britain, and you lose the province. The fast horsemen that were Ghengiz Khan's couriers who dreaded "neither snow nor rain nor heat nor gloom of night" were the communications apparatus that knitted his empire together.

Empires work when the ability of people to communicate and trade is limited. They work because the exploiting culture derives raw materials for their industries from the colonies and provinces, and enjoy a captive market in which to sell their products. The Boston Tea Party, for instance, was the result of a long series of restrictive trade laws known as the Navigation Acts, the purpose of which was to make sure that only English ships carried cargo to and from the American colonies.

But empires, being a collection of captive nations held together by naked force, are also unstable. This fact runs counter to the movies we all grew up with, movies in which the "thin red line" advances in perfect order with bayonets fixed in the service of the King. And being unstable, empires can only exist so long as the emperor and his minions

control the lines of communication. Give the “common folks” the ability to communicate and trade freely, and cracks begin to form in the façade of togetherness.

Once transportation improves and millions of people can travel between continents as easily as they once journeyed to the nearest big city, then suddenly empires are no longer cost effective. With giant cargo ships crossing the ocean in a matter of days or weeks, their holds brimming with cargo and bulk commodities, suddenly it becomes cheaper to purchase a product for money than it does to have your army steal it.

Empires are less efficient than commerce because of the infrastructure costs involved in maintaining political domination over a captive people. If you are going to be in the empire business, you will need to pay the salaries of the occupying army and the colonial civil servants. There is also the cost of the fortresses, seaports, railroads, and other capital improvements required to extract the raw materials and to deliver finished goods. If you are merely purchasing raw materials such as oil, you incur none of those costs. You tie your supertanker up to the petroleum terminal and say, “fill her up!”

There is another cost to empire that people often overlook. It is the “opportunity cost” inherent in doing business only with one’s own colonies. What if natural rubber is cheaper in Indonesia than it is in your colony in Malaysia? Too bad. You still have to buy your rubber in Malaysia. Why? Are you telling me that after making all of those investments in infrastructure, you are going to let them sit idle? I think not. You will use what you have built in your colony, even if doing so costs you money. A commercial buyer, on the other hand, has none of these concerns. He merely goes where the prices are cheapest and doesn’t worry whether or not the Malay docks are empty.

The foregoing discussion yields an interesting point. It was improvement in communications and transportation that originally created empires (Rome with its roads, Britain with its navy). However, it was these same two factors that made empires go out of fashion as communications approached instantaneous and transportation grew to the get-anywhere-in-a-single-day system we enjoy today. This is known in science as the “too much of a good thing” paradox. If one aspirin will cure your headache, just think of what an entire bottle will do for you! And since we are about to have even more of the good thing that killed empires, what chance that we will see their like again anytime soon?

In the near term, empires are likely to stay dead. However, the far future may be another story. Why? Because the speed of communications and transportation are about to reach minimum. Soon it will be possible to travel to any point on the planet in four hours or less. But that will remain true only so long as we confine our activities to this one small world. When we finally go out to the solar system, and then to the stars, the time required to travel to the farthest inhabited point in humanity’s realm will increase dramatically. No longer will journeys be measured in hours, but rather in days, weeks, months, or years.

Starships will resemble sailing ships far more than airplanes — in terms of travel time, accommodations, and operating procedure. And empires, it turns out, are a distinct possibility in a universe of “sailing ships.” So, let us evaluate what conditions will be like out among the stars. Will those conditions once again make galactic empires feasible? Indeed, will they make them inevitable?

### **The Stars Are Ours, If Only We Can Figure Out How to Claim Them**

We have discussed the subject of interstellar distances before in this series so we will not go deeply into that subject again. Let us merely say that the stars are far apart ... damned far apart!

Flying at the speed of a jet airliner, it would take 5,000,000 years to reach the nearest star, and the prime real estate is a great deal farther away than that. So the future of spacefaring humanity (if it has a future), will parallel the past of seagoing humanity. First we will have to learn to paddle our canoes, then to sail, steam, and finally, to race around in gas-turbine-powered hydrofoils. And just as the Roman and British Empires were reflections of the speed of travel and communication in their day, so too will be the governments of our future interstellar possessions. Let us then go through the phases of interstellar exploration and colonization, to see whether the old forms of government may indeed obtain a new lease on life. We will start at the very crudest technology that might get us to the stars, then work our way up the technological (and science fiction) ladder.

### Generation Ships, Slow Boats To The Stars

As you all should know by now, scientists believe that faster-than-light travel is impossible. That you find so many *ftl* ships in science fiction is less the result of our greater scientific knowledge than our fervent hope that Einstein was wrong in some small aspect of his Theory of Relativity. For if he is right, this is going to be a dull universe!

Not too far ahead of our current level of technology, however, is a time when we may be able to build a ship that will actually travel to the nearer stars. The only problem is that it will do so at speeds substantially less than that of light. In science fiction these are called generation ships because their crews live for generations aboard while they plod slowly across the black gulf between the stars. Those who arrive at the destination are the descendents of the original crew, all of whom are long dead. Generation ships are sometimes called “slow boats” for obvious reasons.

What kind of an interstellar government would form in a society that relied on slow boats to colonize the stars? Frankly, none whatever. Even if the central government on Earth demanded that the colonists of Alpha Centauri III swear allegiance to the flag, how could they possibly force the issue? If it takes two hundred years to travel from Sol to Alpha Centauri, even a punitive military expedition would be meaningless. By the time it arrived, the government that sent it on its way would be long dead, as would the colonists they were trying to punish.

So, the initial stellar colonies will have to be entirely self-sufficient. They will set up any kind of government they choose and Earth will be powerless to stop them. Likewise, any association of different star systems would be doomed to failure for the simple reason that those sent to attend the opening session of the Interstellar Parliament would all die of old age en route.

This doesn't sound to be a very desirable state of affairs, does it? Why would anyone go to the expense of setting up a colony that will provide the home society no benefits for generations? The people on Earth can't tax the colony, they can't sell it goods, and they can't very well retrieve its raw materials for their own use. It sounds like a losing proposition, so why bother setting up such a colony in the first place?

Altruism is one motivation. So long as the human race remains clustered on a single planet in a single star system, we are vulnerable to the vagaries of Mother Nature. A really large asteroid or a small hiccup from the sun would be all that is required to exterminate us. With thriving colonies around several of the nearer stars, we would at least have spread the human gene pool far enough that a single disaster wouldn't get us all.

However, save as a species insurance policy, colonizing the universe by slow boat holds little attraction for the science fiction geo-politician. Fiction is about conflict and war is the ultimate in conflicts. So, let us see if we can't get something started by improving our starships a bit. Let's build the Einstein Flyer, a ship that can exceed the speed of light by as much as a factor of two!

### Speeds A Little Faster Than Light

Actually, Einstein didn't say that you couldn't fly faster than the speed of light. What he said was that you can't accelerate *through* the speed of light. The reason for this is that strange things happen at light speed. Mass becomes infinite, time stops dead in its tracks, and everything material is spread out in a wavefront with infinite width and zero thickness. The speed of light, denoted as  $c$  by physicists, is a discontinuity in the laws of physics. None of the familiar laws hold there, and since a ship moving at  $c$  has infinite mass, no amount of energy will serve to accelerate it 1 mm/sec faster.

However, the conditions that exist at speeds above  $c$  are currently undefined by our physics. Perhaps there is a loophole that says we can jump from a dead stop to a speed of twice the speed of light,  $2c$ . What could one do with a starship that could reach the stars at speeds up to two lights? (The *light* being the obvious unit of measurement for multiples of  $c$ .)

An *ftl* ship capable of speeds up to two lights would be millions of times faster than anything we have yet built. Even so, the scale of the universe is such that setting out for Alpha Centauri in one would be like trying to cross the Pacific Ocean in a rowboat. Actually, that analogy is not an apt one. To reach Alpha Centauri at two lights would take slightly more than two years. You can row your way across the Pacific much more quickly than that!

Still, it's an improvement. Suddenly, the nearer stars are in reach and ready for colonizing — assuming, of course, that we can find suitable planets circling them. In this context “suitable” has a broad meaning. Since we would be limited to searching the stars within about a dozen light years of Sol, we couldn't be too picky about where we settled. That means much of our effort to plant human colonies in alien star systems would involve moving life support equipment there. Domes, cold weather gear, breathing apparatus to keep the chlorine atmosphere at bay; all of these would be in great demand.

At twice light speed, local space begins to resemble the Earth in the days of Magellan. Having convinced King Charles I of Spain that he knew a way around South America (he was lying), Magellan set off to the west on a voyage of discovery. The few surviving members of his expedition returned some three years later. Magellan wasn't among them. He died in the Philippines after sticking his nose into something that was none of his business.

Still, taking a few years to reach the nearer stars makes interstellar travel somewhat feasible. Interaction between the home system and the colonies would become possible, although commuting would be severely restricted. Colonies would grow slowly, and eventually some form of interstellar government would arise. The history of the Age of Discovery proves that even with commerce limited to a few ships each year, interaction between colonies and homeland would continue.

What sort of governments would tend to arise if we had slow *ftl* drives? Pretty much the same sort that sprung up in the Western Hemisphere in the years following Columbus's discovery of America. Within a dozen light-years or so of Sol, those governments would have ongoing trade and relations with Earth. Perhaps economic, political, or religious refugees would settle stars much more distant — with the intent to get as far away from their oppressors as possible. But most of the colonies would be built within ten-travel-years of Sol. That would limit us to Alpha Centauri, Procyon, and the few other F and G class stars within our reach.

The colonial governments would owe allegiance to their benefactors on Earth, if for no other reason than that they would be highly dependent on the yearly supply ships from home. Governments would probably be run by representatives of the home nation or company, with governor-general a popular title for chief executives. Local affairs would largely be run locally, because even a two-year journey in one direction would make soliciting instructions from home too cumbersome to be effective. Nor would it be feasible to receive instructions by laser or radio. Remember that the ships are twice as fast as electromagnetic radiation!

The number of suitable candidate stars for colonization within 12 light years isn't very large, so there would be nothing resembling a large Interstellar Federation. Again, the prototype would be the New World in the Sixteenth Century, a few colonies set up by the major powers (whoever they might be at the time), and owing allegiance to their founders. After a few generations, the locals would begin to lose their reverence for the "old country," and independence movements would begin, ending in their breaking away from Earth's control.

War in a universe where ships are limited to low multiples of light speed would very much resemble the duels between sailing fleets that took place during the Napoleonic Era. It would be a universe where the report of a single warship in a star system would send a panic through the populace, and where starships might raid planets for loot. Piracy would again become possible, and maybe even profitable -- depending, of course, on how much it cost to get from star to star.

Commerce would be light and scattered, with no more than a few ships arriving each year at any given colony world. Perhaps the liners that plied the interstellar lanes would set out on a great circuit of the colonies, a journey that would take a decades to complete. These ships would be manned by people who owed no allegiance to any nation or government. Like the Gypsies or the Bedouin, they would be the nomads of space, free traders needed by everyone, but also at odds with those they served. Their allegiances would be reserved for their individual ships and crews.

Obviously, then, a universe in which *ftl* is limited is not one where either a wide-ranging interstellar federation or galactic empire is possible. So, let us continue our journey up the scale of speed. Next stop, the era of fast *ftl* travel!

### FTL Speedsters

Before one can seriously consider building a star-spanning civilization, the top speed of starships must be dramatically improved. A viable starship must make the journey from Sol to Alpha Centauri in months rather than years, and preferably in a matter of weeks. The Milky Way Galaxy is a collection of 200 billion stars in the shape of a flattened disk some 100,000 light years in diameter. Even a ship capable of speeds up to 1000 lights (1000 light-years traveled per year of time consumed) would take a lifetime to transit from one side of the galaxy to the other. Sol is 28,000 light-years distant from the center of the galaxy, and about 20 light-years above the galaxy's equatorial plane. This means that an expedition to the Galactic Center would take 28 years going out and an equal time coming back. That's a long time to wait to get pictures from the core.

As for reaching the nearest large neighboring galaxy, Andromeda, forget it. A 1000-light speedster would have to be in transit from the time Rome was founded until well into the next century. Obviously, invaders from another galaxy are not going to be a problem if 1000-lights is their upper speed limit.

Still, a ship that fast (in *Star Trek* parlance, 1000 lights is Warp Factor 10) would be highly useful to anyone wanting to build a respectable interstellar civilization. Instead of being limited to a globe of space a dozen light-years around Earth, a 1000-light ship would extend that globe to a respectable 3000 light-year radius around Sol. There are literally millions of stars within 3000 light-years of the sun, with at least an equal number of planets. An FTL speedster would eliminate the need to settle for any old piece of real estate we happened to come across. We could afford to pick and choose, limiting ourselves only to Earth-like planets with oxygen atmospheres and well-developed biospheres.

A Warp Factor 10 starship would make the science fiction dream of an Interstellar Federation feasible. It would also allow for the prosecution of modern-style wars. At 1000-lights velocity, war would be far ranging and indescribably violent. Fleets of ships could leave hidden military bases and strike out against their enemies across a vast region of space. Billions would die in any large-scale conflict, and whole planets would be left uninhabitable ... just the sort of situation we science fiction writers love to write about!

However, even at 1000 times the speed of light, our ships are too slow to build anything on a truly galactic scale. Most likely, human space would end up a distorted pancake shape, with starships visiting many of the stars in our local arm of the galaxy. Perhaps we would explore farther, crossing over to the next arm, and maybe even send an expedition toward Galactic North far enough to get a picture of the Milky Way from the outside. But a galactic empire would be out of the question. An interstellar federation (or kingdom) would be about the best we could manage.

### Galactic Clippers

Before a civilization can truly spread throughout the galaxy, it will require starships capable of at least 10,000-lights velocity (Warp Factor 20+). These ships would only require ten years to cross the galaxy, and three years to reach its center. At 10,000 lights velocity, the galaxy "shrinks" to about the size of the Earth at the time of Magellan, and the stars of local space are as close as the neighborhood convenience market. At 10,000



lights, there is no place in the galaxy a starship cannot go, although Andromeda continues to be inconveniently far away. An expedition to our neighbor galaxy would have to use a generation ship. Or possibly, if we assume that a society able to build a Galactic Clipper will have made similar advances in medicine, perhaps the intergalactic gulf might be crossed in a single lifetime. Even so, three centuries is a long time to spend aboard the same ship.

Human civilization would spread quickly with Galactic Clippers, quickly and thinly. For if we are able to reach every star in the galaxy, we will become hypercritical about the real estate we settle. With more than 200-billion candidate systems from which to choose, why not? Before any planet is judged acceptable for colonization, it will have to possess lush green forests, a pliant population of beautiful native women, and waterfalls of champagne cascading down the sides of picturesque peaks. Anything less and we will pass it by as unsuitable.

It is the Galactic Clipper that will make a galaxy-wide government work. There may someday be millions of ships flitting hither and yon, so many that their aggregate mass might actually produce a measurable perturbation in the galaxy's gravitational field. Also, people being the way they are, there would likely be several wars raging across the great pool of stars at any given moment.

That is the downside of the Galactic Clipper. It will make destruction on an unimaginable scale possible. Thousands of ships will someday slash and parry across ten-thousand-light-year-wide fronts, destroying planets and stars in their futile quest for victory. Because of the vastness between the stars, a wide-scale war might take centuries or even millennia to win. Ships would appear from nowhere to launch their planet-busters, then disappear into the blackness before anyone could react. The number of artificial novas that might result from an extended human conflict could well make the galaxy twinkle visibly from afar.

Nor is war the only thing a Galactic Clipper would make possible. The sheer size of the galaxy will inevitably lead to endless variations in culture and governmental forms. Every hair-brained scheme of governance ever imagined will be tried somewhere. So, too, will every vice we have yet discovered, and several not yet imagined. Crime is likely to run rampant across the spaceways. And why not? The perpetrators of any crime or atrocity will have so much black vacuum in which to hide that their apprehension will be nearly impossible.

Anarchy and chaos are the natural result of any civilization spread as thinly as humans will likely be when we fill the galaxy. Yet, human beings have a built-in defense against anarchy. Whenever we feel collectively threatened, we band together to confront the threat. These ad hoc alliances will likely coalesce into an association of free worlds, essentially, an Interstellar Federation. One of the first acts of such an alliance will be to establish a "force in being," a Federation Starfleet.

Keeping the peace will only be part of the Starfleet's mission, however. For in a universe of Galactic Clippers, when a lone ship can strike a world with little or no warning, planets outside the federation will always represent a continuing security risk to those within. It will not take long before the association of free worlds decides that the benefits of membership will be extended to all worlds everywhere — whether they like it or not. Persuasion will be the preferred method of recruitment, of course; but force will be used when necessary.

As it expands, it will become more autocratic, and imperceptibly, the Interstellar Federation will give way to the Galactic Empire.

Would such an “empire” be an empire in reality, or merely a giant-size nation? Even with Galactic Clippers, the distances and travel times involved ensure that arguments will abound in a galaxy inhabited by ornery human beings. Arguments inevitably lead to wars unless there is a force such as the Imperial Starfleet to keep the peace.

This isn’t to say that a galactic empire will rule the member worlds with an iron hand. Quite the contrary! The same distance that makes unity difficult also prevents pettifogging bureaucrats from directing everything from the galactic capital. Individual planets will likely run themselves as they see fit. There will be democracies, autocracies, plutocracies, monarchies, theocracies, and a dozen kinds of “-ocracy” that we have yet to imagine.

The Galactic Empire’s central government will primarily be in charge of moderating the individual star systems’ baser instincts. It will, presumably, stop one star system from blowing up another merely because they have different political philosophies. Failing that, it will punish the transgressors. And, of course, it will make sure that everyone pays his or her taxes on time.

## **Conclusion**

So now we know why science fiction writers are nearly universal in their belief that humankind will eventually coalesce into a galactic empire! In a universe where travel times allow for the basic orneriness of human beings to flower, some form of autocratic central government seems unavoidable. For despite the fact that they have gone out of style here on Earth, history shows that the empires are one kind of government able to handle the divergent political views of a heterogeneous population. That there is a certain degree of compulsion involved in the process is unfortunate, but probably necessary. Those of us who fought the Russian Empire for our entire lives are not totally happy to see it go. We are just now becoming aware of some of the ancient hatreds that were suppressed by Joe Stalin’s army. A good example is the recent state of the former Yugoslavia. And if the disintegration of the land of the Yugo was not a strong enough example for us, we have 9-11-2001 to remind us of the new hatreds that the collapse of the Soviet Union loosed on the world.

Obviously, it would be better if we could meld the galaxy into a single, homogeneous culture, to make it a Galactic Nation rather than a Galactic Empire. However, with millions of star systems separated from one another by weeks or months of travel time, that isn’t likely to happen. Divergence of opinion is inevitable, and to the extent that a world’s practices don’t bother its neighbors, tolerance will likely reign. But there will be certain attitudes and acts that will be judged to be inimical to the collective good, and prohibiting these will be the job of the Imperial Starfleet and its Marines!

Thus it has always been. Thus it shall ever be.

All Hail the Galactic Emperor!

The End

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That is disturbing news for the Altans. For the dead battleship could easily have defeated the whole of the Altan navy. If it could find Alta, then so could whomever it was that beat it. Something must be done...

### **4. Antares Passage - US\$5.00**

After more than a century of isolation, the paths between stars are again open and the people of Alta in contact with their sister colony on Sandar. The opening of the foldlines has not been the unmixed blessing the Altans had supposed, however.

For the reestablishment of interstellar travel has brought with it news of the Ryall, an alien race whose goal is the extermination of humanity. If they are to avoid defeat at the hands of the aliens, Alta must seek out the military might of Earth. However, to reach Earth requires them to dive into the heart of a supernova.

### **5. Antares Victory – First Time in Print – US\$7.00**

After a century of warfare, humanity finally discovered the Achilles heel of the Ryall, their xenophobic reptilian foe. Spica – Alpha Virginis – is the key star system in enemy space. It is the hub through which all Ryall starships must pass, and if humanity can only capture and hold it, they will strangle the Ryall war machine and end their threat to humankind forever.

It all seemed so simple in the computer simulations: Advance by stealth, attack without warning, strike swiftly with overwhelming power. Unfortunately, conquering the Ryall proves the easy part. With the key to victory in hand, Richard and Bethany Drake discover that they must also conquer human nature if they are to bring down the alien foe ...

### **6. Thunderstrike! - US\$6.00**

The new comet found near Jupiter was an incredible treasure trove of water ice and rock. Immediately, the water-starved Luna Republic and the Sierra Corporation, a leader in asteroid mining, were squabbling over rights to the new resource. However, all thoughts of profit and fame were abandoned when a scientific expedition discovered that the comet's trajectory placed it on a collision course with Earth!

As scientists struggled to find a way to alter the comet's course, world leaders tried desperately to restrain mass panic, and two lovers quarreled over the direction the comet was to take, all Earth waited to see if humanity had any future at all...

## 7. The Clouds of Saturn - US\$5.00

When the sun flared out of control and boiled Earth's oceans, humanity took refuge in a place that few would have predicted. In the greatest migration in history, the entire human race took up residence among the towering clouds and deep clear-air canyons of Saturn's upper atmosphere. Having survived the traitor star, they returned to the all-too-human tradition of internecine strife. The new city-states of Saturn began to resemble those of ancient Greece, with one group of cities taking on the role of militaristic Sparta...

## 8. The Sails of Tau Ceti – US\$5.00

*Starhopper* was humanity's first interstellar probe. It was designed to search for intelligent life beyond the solar system. Before it could be launched, however, intelligent life found Earth. The discovery of an alien light sail inbound at the edge of the solar system generated considerable excitement in scientific circles. With the interstellar probe nearing completion, it gave scientists the opportunity to launch an expedition to meet the aliens while they were still in space. The second surprise came when *Starhopper's* crew boarded the alien craft. They found beings that, despite their alien physiques, were surprisingly compatible with humans. That two species so similar could have evolved a mere twelve light years from one another seemed too coincidental to be true.

One human being soon discovered that coincidence had nothing to do with it...

## 9. Gibraltar Earth – First Time in Print — \$6.00

It is the 24th Century and humanity is just gaining a toehold out among the stars. Stellar Survey Starship *Magellan* is exploring the New Eden system when they encounter two alien spacecraft. When the encounter is over, the score is one human scout ship and one alien aggressor destroyed. In exploring the wreck of the second alien ship, spacers discover a survivor with a fantastic story.

The alien comes from a million-star Galactic Empire ruled over by a mysterious race known as the Broa. These overlords are the masters of this region of the galaxy and they allow no competitors. This news presents Earth's rulers with a problem. As yet, the Broa are ignorant of humanity's existence. Does the human race retreat to its one small world, quaking in fear that the Broa will eventually discover Earth? Or do they take a more aggressive approach?

Whatever they do, they must do it quickly! Time is running out for the human race...

## 10. Gibraltar Sun – First Time in Print — \$7.00

The expedition to the Crab Nebula has returned to Earth and the news is not good. Out among the stars, a million systems have fallen under Broan domination, the fate awaiting Earth should the Broa ever learn of its existence. The problem would seem to allow but three responses: submit meekly to slavery, fight and risk extermination, or hide and pray the Broa remain ignorant of humankind for at least a few more generations. Are the hairless apes of Sol III finally faced with a problem for which there is no acceptable solution?

While politicians argue, Mark Rykand and Lisa Arden risk everything to spy on the all-powerful enemy that is beginning to wonder at the appearance of mysterious bipeds in their midst...

### **11. Gibraltar Stars – First Time in Print — <sup>US</sup>\$7.50**

The great debate is over. The human race has rejected the idea of pulling back from the stars and hiding on Earth in the hope the Broa will overlook us for a few more generations. Instead, the World Parliament, by a vote of 60-40, has decided to throw the dice and go for a win. Parliament Hall resounds with brave words as members declare victory inevitable.

With the balance of forces a million to one against *Homo sapiens Terra*, those who must turn patriotic speeches into hard-won reality have their work cut out for them. They must expand humanity's foothold in Broan space while contending with a supply line that is 7000 light-years long.

If the sheer magnitude of the task isn't enough, Mark and Lisa Rykand discover they are in a race against two very different antagonists. The Broa are beginning to wonder at the strange two-legged interlopers in their domain; while back on Earth, those who lost the great debate are eager to try again.

Whoever wins the race will determine the future of the human species... or, indeed, whether it has one.

### **12. Gridlock and Other Stories - US\$5.00**

Where would you visit if you invented a time machine, but could not steer it? What if you went out for a six-pack of beer and never came back? If you think nuclear power is dangerous, you should try black holes as an energy source — or even scarier, solar energy! Visit the many worlds of Michael McCollum. I guarantee that you will be surprised!

## Non-Fiction Books

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### **13. The Art of Writing, Volume I - US\$10.00**

Have you missed any of the articles in the Art of Writing Series? No problem. The first sixteen articles (October, 1996-December, 1997) have been collected into a book-length work of more than 72,000 words. Now you can learn about character, conflict, plot, pacing, dialogue, and the business of writing, all in one document.

### **14. The Art of Writing, Volume II - US\$10.00**

This collection covers the Art of Writing articles published during 1998. The book is 62,000 words in length and builds on the foundation of knowledge provided by Volume I of this popular series.

### **15. The Art of Science Fiction, Volume I - US\$10.00**

Have you missed any of the articles in the Art of Science Fiction Series? No problem. The first sixteen articles (October, 1996-December, 1997) have been collected into a book-length work of more than 70,000 words. Learn about science fiction techniques and technologies, including starships, time machines, and rocket propulsion. Tour the Solar System and learn astronomy from the science fiction writer's viewpoint. We don't care where the stars appear in the terrestrial sky. We want to know their true positions in space. If you are planning to write an interstellar romance, brushing up on your astronomy may be just what you need.

#### **16. The Art of Science Fiction, Volume II - US\$10.00**

This collection covers the *Art of Science Fiction* articles published during 1998. The book is 67,000 words in length and builds on the foundation of knowledge provided by Volume I of this popular series.

#### **17. The Astrogator's Handbook – Expanded Edition and Deluxe Editions**

The Astrogator's Handbook has been very popular on Sci Fi – Arizona. The handbook has star maps that show science fiction writers where the stars are located in space rather than where they are located in Earth's sky. Because of the popularity, we are expanding the handbook to show nine times as much space and more than ten times as many stars. The expanded handbook includes the positions of 3500 stars as viewed from Polaris on 63 maps. This handbook is a useful resource for every science fiction writer and will appeal to anyone with an interest in astronomy.