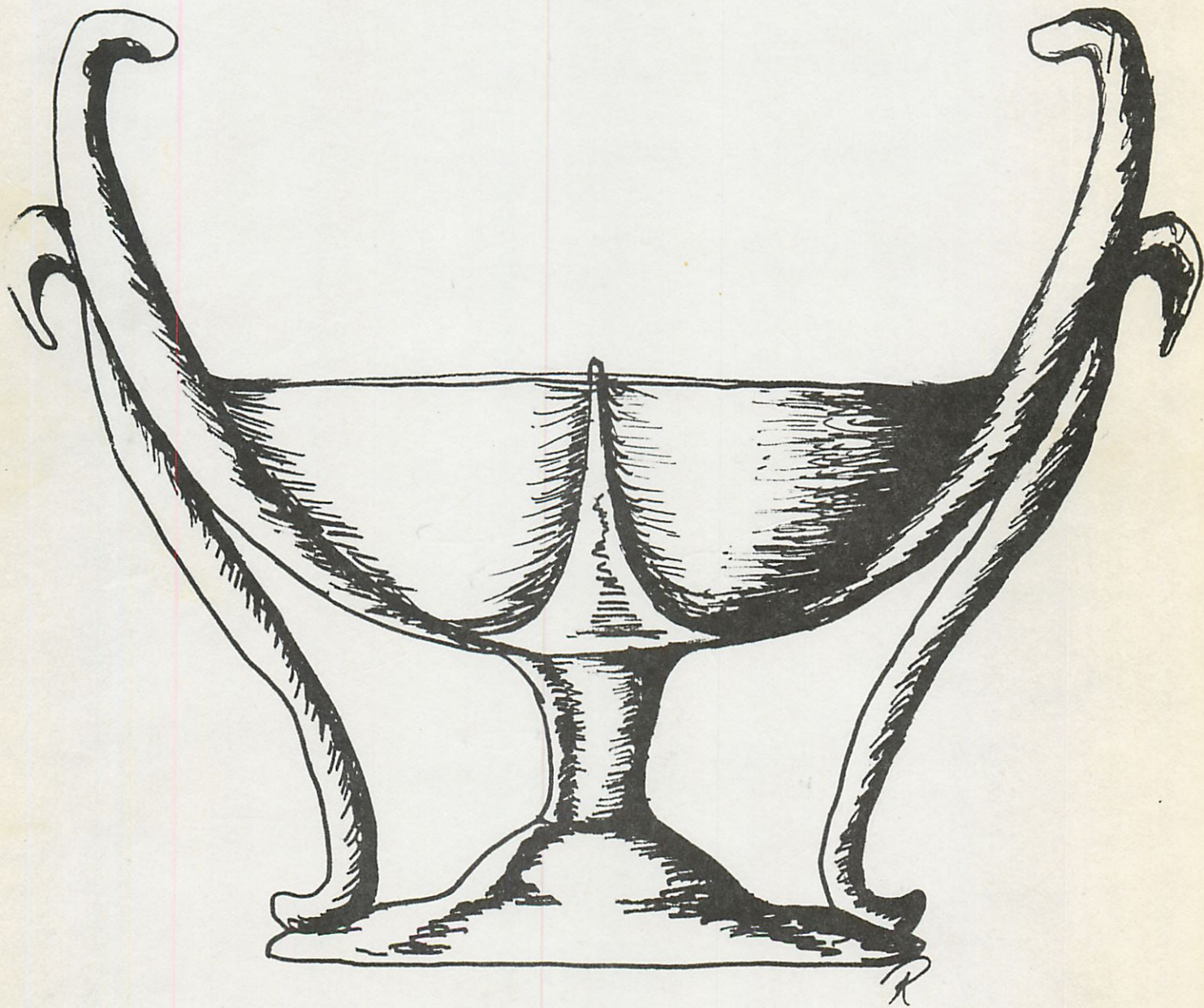


KRAITH CREATOR'S MANUAL



vol. 1

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February 16, 1973

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INDEX

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Index -----	1
Author's Foreward -----	2
Editor's Foreward -----	3
Carol Lynn	
Open Letter I -----	4
Part I: Character Developement	
The Kirk/Spock Relationship -----	5
The Spock/T'Aniyeh Relationship -----	7
The Ssarsun Biography -----	9
Part II: Background: Theoretical	
In Defense of T'Yuzeti -----	14
The Vulcan Realms -----	26
A Trisomic Model for Kataytikhe Genetics -----	28
John Benson	
Beads and Rattles -----	32
Vulcanur Sememics -----	34
Part III: Background: Story Detail	
The Culling Flame -----	50
The Joys of Vulcan -----	53
Humor -----	55
Celebration -----	59
Part IV: Story Outlines	
The Linger Death -----	64
The Lesson -----	65
Part V.: Kraith Exchange	
The Letter File -----	68
Kraith Creators Roster -----	75
Reccomended Reading -----	77

Fondly dedicated to the IBM typewriter repairman who never did come to fix the n, t, and h keys that don't type until they have been used several hundred times, the a key that sticks, and the ribbon holder that doesn't.

AUTHOR'S FOREWORD

MAY YOU LIVE LONG AND PROSPER:

You will notice that most of the wordage in this volume is under my own by-line. We hope the next volume will be better balanced. It should not be difficult to place a contribution with the Kraith Creator's Manual.

Letters that have passed between Kraith Creators during the roughing out of a story should be sent to Carol Lynn for editing. Background ideas on stories you've written can be worked up into articles for the Manual, telling other Creators some of the things you had in mind but didn't get around to spelling out in the story. Story outlines or story ideas for Kraith stories that you would like to see somebody else write can be sent to the Manual for publication. Perhaps somebody will write them for you. LoCs you have received on Kraith stories you've had published, and questions on points that confuse you are also of interest to the other Kraith Creators. Articles explaining or criticizing any aspect of the Kraith background are also possible contributions. (All descisions on what to publish are Carol Lynn's. She has the final say.)

There are many stories yet to be written in the Kraith Series. The only characters whose ultimate fate has been completely decided by one or another Creator are: Spock, Kirk, McCoy, Ssarsun, T'Pau, T'Aniyeh, and S'Darmeg. That leaves Scotty, Chekov, Chapel, Sulu, etc., plus all the originally Kraithish characters such as T'Uriamne, Admiral Pesin, and hoards of cameo roles. There is plenty of room for original characters designed to illustrate some point, and there is room for a number of sub-series. We haven't touched upon the family of Amanda and all the human relatives that Spock must have somewhere, however distant. There are whole areas of Vulcan culture that are totally unexplored, and there is the entire pageant of Vulcan history to develope.

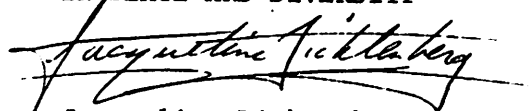
Rusty Hancock has begun to open up the area of Vulcan pre-history with a story set at the time of the first kataytikhe. As yet we do not have a numbering convention to deal with that part of the Kraith Series, so if anybody has a suggestion, please tell us.

Ruth Berman has come up with a story that fits in between Kraith IIIB and IIIC. It has tentatively been decided to label that story Kraith IIIB(1). It is a "ps" immediately following the story "Coup de Grace", and is titled "Coup de Partie".

The Series grows more complicated every day. We now have five unpublished stories: "Coup de Partie", "Spock's Initiative" Kraith IIE, Ssarsun's Argument" Kraith IF, "Secret of Groskin" Kraith IIIC, and Rusty Hancock's "From the Time of the Beginning".

The cross references that will tell Creators in which stories their particular characters appear have not been constructed. Is there someone out there who would like the post of Kraith Indexer?

IN PEACE AND DIVERSITY



Jacqueline Lichtenberg
11/27/72

EDITOR'S FOREWORD

Peace and Greetings,

By now you have probably noticed that the lay-out of this 'zine differs quite radically from the lay-out of Kraith Collected. This was done for two reasons. One, the blank page opposite the writings gives plenty of space for industrious Kraith Creators to scribble copious notes on the material. Second, the University's printing service refuses to print on both sides of a page, claiming it slows down their operation too much. Since I do get a discount by using the University's service, I'll go with them when the length of the 'zine isn't exorbitant.

The contents of this 'zine are a hodge-podge of articles and letters designed to elucidate some of the more elusive background ideas of the Kraith Series. Like Tolkien, I can say that Kraith has "grown in the telling". When I first offered to publish the Series, it contained 5 written and 3 proposed main stories and about 5 sub-stories. Now, it seems that there are hundreds of sub-stories, and I'm even being asked to publish letters.

At one point Jacqueline estimated that Kraith would be 500,000 words when it is complete. I am beginning to doubt that it will ever be complete. If only half of the proposed stories are written, the wordage in Kraith ought to top a million words in the next few years. I can only hope that the cataclysmic rise in the number of Kraith stories being written levels off soon, or I will not be able to publish all of it.

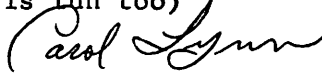
If the letters I receive are any indication of the interest in Kraith, there is an urgent need for a means of disseminating Kraith to the people who don't normally receive their Kraith through letters. I am continually being asked questions, when the answers are already available in articles that I own, but they just haven't been published yet. Hopefully, Kraith Collected and the Kraith Creator's Manual will be able to keep up and satisfy this need.

Since I have started a (hopefully) self-perpetuating fanzine fund, as long as there is Kraith being written for fan publication, I'll be able to publish it at some time or other.

Future volumes of Kraith Collected are beginning to shape up. Volume two will still be Federation Centennial; volume three will contain Kraith IV and the stories leading up to Kraith V. Kraith V and some inbetween stories will be in volume four. A novel by Sondra Marshak, "Spock's Pilgrimage" will be volume five. By the time I get around to publishing all that, Jacqueline should have Kraith VI written and ready for publication. And Kraith VII looks as if it's going to be the longest of all the Kraith main series stories.

I plan to be busy for many years to come.

MAY YOU LIVE LONG AND PROSPER
(of course dieing young and dissipated
is fun too)


Carol Lynn
2/9/73

MAY YOU LIVE LONG AND PROSPER:

A point has been raised by one of the Kraith Critics, and I would like to take this opportunity to tell you about it.

In Kraith there is a recurrent pattern to which some people have reacted positively. It is now under question whether this pattern is the source of much of the antagonism toward Kraith.

The pattern consists of an introduction of some new facet of an alien (usually Vulcan) culture couched in language which is highly ambiguous, but which is normally interpreted at face value. Later in the Series, it becomes apparent that the face-value interpretation is incorrect.

Example, many times we are shown Vulcan ceremonies. The narration is in the language normally used to describe rituals and the overall impression (deliberately fostered) is of some sort of mystical rite. Later the explanations for the actions gradually emerge, and the reader discovers that there is nothing even remotely mystical about the activity.

A Kraith Critic has recently said that this later revelation leaves a "cheated" feeling, an acute discomfort, as if the author were not playing fair.

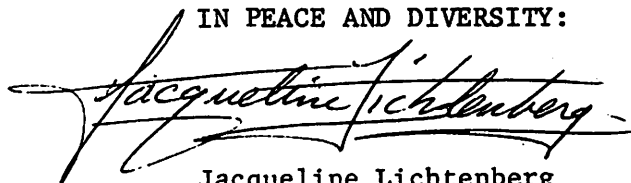
The question I would put to you is, "Do you feel cheated when learning that your initial interpretation is invalid?" Any discussion of this question would be appreciated.

The reason that this pattern is built into Kraith is that Kraith is attempting to point out the semantic fallacies inherent in interpreting the actions of aliens in terms of human standards. Kraith was originally conceived as a counter statement to the most prevalent type of fan-fiction presentation of Vulcan. It seemed that fans could not stretch their minds to see Vulcans in any other light than as anthropomorphic cripples deprived of "normal" emotional outlets.

True that aired ST did leave this question open. They presented data, but in most cases did not interpret it for you. The obvious interpretation which Hollywood no doubt wanted us to make was that Vulcans were simply humans with exotic customs. However, if we view the tv screen as a window into an actual tomorrow and attempt to observe like good xenologists, we MUST NOT project our own human-centered concepts onto genuine aliens. Kraith attempts to point out several other valid interpretations of aired St's basic data.

In order to do this, I have resorted to the ploy of inducing the reader to mistake my initial descriptions in exactly the same way that Hollywood induced you to mistake their descriptions. I then attempt to point out the disastrous consequences of such an error. Does this make you feel cheated? Or does it open new vistas for your mind to explore?

IN PEACE AND DIVERSITY:



Jacqueline Lichtenberg
1/1/73

"The father who guides not his child through the Year of Search will find the sands green at Koon-ut-kali-fee"

from the Book of Sources

THE KIRK/SPOCK RELATIONSHIP

by Jacqueline Lichtenberg

The understanding of the value and strength of Kirk's character come not so much from what he's done on screen but from Spock's opinion of his worth.

Spock is a personality that comes across strong, demanding respect, admiration, even jealousy...and he is the one who is the towering central figure of the Enterprise. But he holds Kirk in highest esteem, not just because he's the Captain and a Vulcan owes a peculiar loyalty to his superior officers, but because Kirk is a figure who, in his quiet way, commands a great deal of respect.

Kirk is actually a prime example of humanity. He has a peculiar sensitivity to people...the knack of command. The flavor of the inter-relations on a ship are a direct reflection of the captain's personality. The Enterprise boasts a crackerjack crew not just because they are tops in their fields, but also because they have a crackerjack captain who knows how to draw forth the best each man can give and then combine that best into a coherent whole.

It is this quality that Spock respects so much because it is the one quality he doesn't have naturally and would like to acquire. But he never will acquire it because it is the quality possessed by the "jacks-of-all-trades", the men who can do everything, but nothing well. Spock is the man who does everything and does it superlatively. He's too good. The average genius won't toe the mark for Spock because Spock is too good. A genius grows up being the best at everything he does. A human genius reacts negatively to someone who is as much above him as he is above his non-genius associates. A Vulcan genius just can't understand the nature of that very human negativism.

To a human, there is nothing more obnoxious than a person who is consistently right and knows it. To a Vulcan, any kind of consistency which adheres to logic is admirable...a Joy in itself.

The warm friendship between Kirk and Spock may well have begun because Kirk is not the kind of man who resents those who are consistently right and know it. Kirk, while not an intellectual genius himself, is a highly creative artist whose raw material is the genius. Throughout his pre-Enterprise career, Kirk came to understand the way the genius sees reality. But never before had he encountered such an artist's dream as the nearly perfect genius who is Spock. And, never before had Spock encountered a human who could understand him to the extent of inducing both his halves to cooperate in truly creative artistry. (Science is a creative art to those who have mastered its tools.)

While this may have been where the relationship began, it is not where it ended. In order to enjoy the pleasure of their friendship, each of the two men found it necessary to reach out across the gulf between cultures. In doing so, they came to realize that the gulf was far wider than the UFP had ever thought. The bridge that they built was a very personal bridge modified strongly by Spock's human heritage.

Of all the people that Spock had ever known, Kirk was the only one who seemed to understand the place his human heritage held in his overall adjustment to life. Likewise, of all the people Kirk had ever known, Spock was the only one who seemed to understand

the loneliness of being different.

And, Kirk as a non-genius among geniuses, as one of the few men in creation who is an artist whose material is the genius, as a captain alone among his crew, as the youngest captain in the Fleet, as the best and youngest captain in the Fleet (a combination sure to arouse jealousy and envy and a certain resentment among his fellow humans) as a man without close family ties, is certainly one of the most lonely men who've ever lived.

Each of these men gave as much to their relationship as they received. Through this exchange, their relationship grew stronger through the years. Because of their very natures, each man was incapable of developing such a relationship with any other person. And, as every human knows instinctively, without such a relationship the soul withers and dies even though the body lives.

However, being men, they placed very severe limitations on the degree of closeness they could achieve. Metaphorically, each held the other at arm's length. Women are better able to deal with the soul nourishing intangibles of life. Men are embarrassed by intense feelings, especially those directed at other men. Fear of such excruciating embarrassment caused both Spock and Kirk to try to inhibit the development of their friendship.

Events caused them to lose the battle. Many times, each saved the other's life. And then, little by little, events of their personal lives began to obtrude. Kirk experienced episodes of extreme emotional attachment to several females, lost his brother and sister-in-law, was court-marshalled, while Spock met up with a woman from his past, was rejected by his "wife", became reconciled with his father, and had occasion to initiate mind-meld with Kirk and other non-Vulcans.

During all of this, the periods of increased closeness between the two were followed by periods of strict formality. Yet, the pattern had been set. We can only assume that it would continue into the "fourth" season and beyond.

If we step back and consider the meanings and implications of this unique friendship, we can ask some questions that generate viable drama. For example: Spock's family is "important"...what exactly is his position on Vulcan? High enough to affect the tides of history? If so, in what way will this unique friendship affect the course of Vulcan? What is Vulcan's position in the UFP? What do Vulcans think about humans and the UFP? Can Spock change their opinion? Would he want to?

The essence of fiction is CONFLICT. Hence, if Spock IS important enough to affect Vulcan's course, and if his relationship with Kirk has given him a different opinion than the Vulcan-on-the-street, then conflicts are set up which generate many superlative stories.

ZYETO:

"Thy father taught thee of the hidden paths and waters, yet thee says thee walks the ways alone. Ye ever seek the Bloom, but the sands shall claim thee ere the coming of fire. Fool, thy ancestors nurtured thee, thy spouse takes thee, and who shall counsel thy children?"

from the Book of Fragments *

The Spock/T'Aniyeh Relationship

by Jacqueline Lichtenberg

The key to understanding this strange relationship is complex. Basically it requires the grasp of the non-humanity of Vulcans. But that is not enough since T'Aniyeh/ Tanya is physiologically human.

Why did Spock choose Tanya?

After "Amok Time", Spock found himself in a peculiarly unstable condition and without many ties to eligible Vulcan females. His family, of course, could have aided in his search for a wife... but not unless he requested aid. He did not want to do so because after the mechanisms of Vulcan social stability had ground through that process of selection, he would have no logical recourse but to accept the answer presented him.

His experience with his father had taught him that all Vulcans do not understand the peculiar needs (see, "Spock, Guardian of the Tradition") of a human/Vulcan hybrid. Upon researching the field of eligible females between the proper ages, he selected the one who seemed most likely to be capable of adjusting to him. T'Zorel was too young. He was further encouraged by the fact that he knew her and her family slightly because at the time of her Naming he had been on the Naming Committee (only a boy at the time). They had kept in touch through the years so he expected to be accepted.

But, as told in MISSION, she turned him down the first and second times he asked. Why?

A variety of reasons. Not in order of importance, they may be taken to be: A. She did not want to inflict her own emotional instability on any Vulcan through the intimacy of a bonding. B. She did not realize the Bonding would affect her equally by alleviating her tendency towards destructive tantrums. C. She fully realized Spock's social position as a Kataytikh of the First Realm and felt unequal to the chore of being the wife of such a one. Further, she felt that Vulcan's future would be better assured if Spock's children had a Vulcan mother. D. She cherishes Spock in such a way that she wants his happiness more than her own. This is not love in the true sense, though it is often a symptom of love. She knows that he will outlive her in the normal course of events and does not want him to have to undergo such a parting. She does not feel capable of providing for him in the way he must demand; nor does she feel capable of raising his children since she is given to emotional tantrums.

Why did she finally agree to the Bonding?

A. The immediate reason was the presence of children who required an adult with inner tranquility to guide them. She came to realize that Spock's non-Bonded state was a source of discord which prevented his caring for the children and which was interfering with his ability to think about his problem in logic. B. She gradually came to realize how the situation came to look from his viewpoint. As she declared in MISSION, she would never abandon him in a moment of need. C. She came to realize her own need for a deeper sexual relationship. D. She could NEVER attain such a relationship with a human. (See the "Tanya Entry")

Why could she never achieve such a relationship? She was raised by Vulcans who did not give her love, but security. She was introduced to human relatives who gave her "love" in a loathsomely hypocritical way. Thus she became afraid of love for it was associated with "threat" and "pain" and a destruction of the security which was all she really had to base her pre-school years on.

She became very uncomfortable with the idea of living with a man who was unstable because of an illogical emotional attachment to her. This was the only prospect available to her when Sauc refused to mate her in the Vulcan Bonding. She became quite literally afraid of human love because it was human "love" which precipitated a mental breakdown when she was four years old.

However, the idea of living with a man who is totally devoted to her welfare but who is not prone to illogical actions based on love for her became quite attractive after Spock suggested the union. She knew he was Vulcan enough to keep their relationship in the Vulcan man/wife mode -- devoid of love, but rich with many more meaningful nuances -- but she also knew that he was human enough to understand her failings and allow for them.

This situation would provide both the unshakable Vulcan security that she had learned to depend on in childhood and the element of a sexual relationship.

In accepting Spock's offer, she learned that he had faith in her ability to cope with the problems their union would bring about. She is human enough to be able to draw strength from that faith.

She regards her union with Spock as a sort of safe-haven from the dreadful possibility of any emotional entanglements with humans. She does not love Spock, but she does harbor many mixed emotions regarding him. She is incapable of love and in this respect she is crippled as a human being. But it is the kind of debility that cannot be corrected without causing worse damage. She knows compassion both in the logical mode and in the emotional mode. She laughs; she cries; she knows fury, resentment, anger, fear, and envy. She understands the Vulcan attitude toward emotion well enough to know just how far she can apply it to herself. But in many ways she is emotionally immature as a human. This rarely shows in her actions, though, because she acts always under the strict regimen of the Vulcan value structure.

If her relationship with Spock were to be summed up in one word it would be "trust". They trust each other because their actions regarding one another are predictable.

In this union, they have both found an adjustment to life which, while not stable or enduring, is acceptable. It is not stable because both of them are involved in a high risk occupation. The probability that one or the other will be killed in the line of duty within the next twenty years is high enough to warrant the "unstable" designation. It is not an enduring relationship because, given survival, Spock will outlive her by a significant margin even if his human genes shorten his lifespan somewhat. Nevertheless, it is an adjustment with which they are both comfortable.

A case can be made for the similarity between Tanya's psychological condition and that of "frigid" human females... however, it is not Tanya's inability to establish social intercourse that produce the overt symptoms of frigidity and it is an oddly selective frigidity excluding only non-Vulcan males. She relates well to non-Vulcan males who consider her an untouchable Vulcan female.

THE SSARSUN BIOGRAPHY

by Jacqueline Lichtenberg

It is difficult to discuss a person's biography without knowing something about the culture from which he springs. I will try here to give would-be Kraith Creators a minimal grasp of all these converging factors by discussing Ssarsun.

Ssarsun's three parents came to Vulcan just before Schillia joined the Federation. Between the three of them, they had a full command of all the knowledge of Schillian merchants... a considerable and unusual intellectual accomplishment. The reason they left Schillia for Vulcan was to found and nurture a business alliance with a Vulcan firm.

Since Vulcans regard property- ownership quite differently than humans and most others, it is difficult to describe the nature of a Vulcan firm. One could call it a family-corporation and have a useful analogy provided one did not strain the analogy too far. The Vulcan firm is involved in transportation and import-export. They own and operate a number of interstellar shipping lines. They operate a number of offices dealing in import-export which is a complex business on the interstellar scene. They employ lawyers, exo-botanists, exo-biologists, physicians, hordes of laboratory personell, and an enormous computer-controlled dispatching and research corporation. The firm is, in essence, a conglomerate whose members all support one another for maximum efficiency. The firm employs thousands of non-Vulcans.

Among these non-Vulcans were Ssarsun's parents. They were sent by their employers to do a feasibility study on the merits of merging their Schillian conglomerate with the Vulcan one. The study reported positive results and contractual bridges were built. Ssarsun's parents decided they liked life in the interstellar community on Vulcan, and they stayed on as the liason bridge between the two enormous firms.

Since the Schillians had been doing business with many worlds beyond and outside the Federation's jurisdiction, they continued to do so. The link between Schillian and Vulcan trade conglomerates provided a flow of Federation goods to outsiders and a flow of outside goods into the Federation. Both firms prospered unexpectedly, and the shares which Ssarsun's parents had owned in the schillian business grew in value.

Then hard times arrived. But not before Ssarsun's parents had sold some of their stock in the Schillian firm and invested in the Federation stock market (or the equivalent analog). Some of the links between the two conglomerates were dissolved in the intrests of economy. Ssarsun's parents had faith in the Vulcan management. They bought into the Vulcan firm... insisting on voting shares. Because the capital was needed, the Vulcans accepted the terms. Never before had voting stock in a family corporation been sold outside the family. But the Schillians had been with the firm for a number of years, and the Vulcans thought they would make good partners.

The Vulcans were right. With the Schillians working side-by-side with them, they made several fortunate choices and random chance favored them. The business once again grew strong until they rivaled the handful of other Vulcan trading and shipping firms that operated on the interstellar scene. But they were the only one with non-Vulcans in high management positions, full partners and co-owners.

As business turned good, Ssarsun's parents found they could now afford to send

their child "home" for his education, and hopefully to find his mates. Mate-finding is difficult enough for bisexual races. For trisexuals it is confounding. It is especially difficult for telepathic trisexuals who live in a constant mind-meld.

Ssarsun returned to Vulcan to complete his higher education. The excuse he gave was that only on Vulcan could the unique, mathematical approach to sociology be found in its pure form. The real reason, plain as the irridescent scales on his skin, was that he was more Vulcan than Schillian.

During his formative years Ssarsun has lived in the interstellar community on Vulcan. There are no legal barriers forming the walls of this community, but the fact remains that very few Vulcans willingly go there while very few residents venture outside into the real Vulcan environment except on business.

But Ssarsun's parents were one of the first and oldest residents. Schillians are mixers by nature, and, while they do not move their homes as willingly as humans, they do range quite far from home as a matter of course. They were well aware that non-Vulcans were not exactly welcomed with enthusiasm outside the enclave, but they felt (not thought, felt) that they could not tolerate being shut away from the planet's mainstream. They had to stay on Vulcan, therefore, they had to become a part of Vulcan in some small way.

They chose to live in a small house near the edge of the interstellar zone. They were surrounded by rental units used by Vulcans with temporary business in the interstellar community. At first, Vulcans shied away from living so close to the Schillians, who are fabulously emotional people with strong gregarious instincts. But slowly, the Vulcans discovered that this family of Schillians minded their own mental business and kept the tenor of their emotional broadcasts down to bareable levels. In less than a year, Ssarsun was associating freely with the Vulcan children in the neighborhood, and he even attended some Vulcan classes. His main schooling, however, was at the enclave's school; a common denominator Federation education.

For most of his childhood, Ssarsun knew only his parents and the few transient Schillians who passed through Vulcan. Many times these people would be guests in his parents' house, but rarely did they bring their children. During his formative years, the Vulcan Schillian community oscillated between about 10 and 20 Schillians, mostly adults. His parents were the only permanent residents. But he was not lonely. As with most Schillians, he made friends readily. He was the most popular among the non-Vulcans and among the non-humans. Even in adolescence, he formed friendships without regard to sex. He was the natural confidant and go-between for his bisexual friends during their alliance forming experiments.

His own sexual identification, by some miracle, was impressed upon him at the appropriate age, and he never suffered any psycho-sexual derangements akin to homosexuality or impotence. But since his environment was far from "normal", his psychological development was also far from "normal" for his species. He was more comfortable in the small-group melds of his childhood than in the tenuous and confusing melds of thousands of minds that are the norm on Schillia.

The incident that finally sent him "home" to Vulcan was of this sort. He had tried desperately to please his parents and fit himself into the cosmopolitan group-melds of the school where he was sent. He had tried very hard to adopt the attractive mannerisms (minute and undetectable to the human eye) of his sex. None knew so well as he just how much he had failed.

One day, he found himself cast in the role of Joiner of two meld-nets consisting of several hundred students each. He was supposed to form the link connecting both these

groups... a position of considerable honor. But for him it was hell incarnate. In the end he dropped out of both nets, barricading himself in the privacy of his own mind and refusing contact with anyone until sensory deprivation nearly destroyed his sanity. Only unconsciousness caused his barriers to lower, for such barriers are unnatural to the Schillian mind. He had used Vulcan techniques... and his desire for mental privacy was partly based on his absorption of the Vulcan value system.

The school persuaded him to return to Vulcan. It wasn't difficult.

This incident may be regarded as the basis for Ssarsun's fondness for drinking himself insensate. There is a basic conflict between his cultural values and his physiological abilities. It is a minor problem, actually, and his psycho-profiles and Brain Circuitry Patterns are perfectly normal and healthy.

It was also after his return from Schillia that Ssarsun decided that Starfleet's highly mixed society would be the perfect place for him. From the outside, Starfleet appears to be thoroughly mixed. It is only after a few years of service that one begins to realize the extent of the segregation that is practiced in the name of comfort. Only slightly disillusioned, Ssarsun proceeded to found and execute a brilliant career in Security.

It was only after his contact with Spock (AFFIRMATION) that he realized how much he missed having Vulcans around... and noticed how carefully he'd been steered into M-II and M-III society. True he was more comfortable in ships and bases rigged for Ziturians and other amphibians where he could swim without getting inflamed gills from chlorine and chemical pool treatments; where he didn't have to use messy creams to keep his skin moist and his scales from falling off too fast (like people loose hair constantly). But he actually MISSED the hot, dry Vulcan air and the cool, dry Vulcan mind. He felt more relaxed and happy around Vulcans than any other people. He liked the others too, and Vulcans did have their drawbacks... but he found suddenly and to his own surprise, that he understood Vulcans better than any others, even Schillians.

He began to enjoy confounding humans and other emotional peoples with his pithy and shockingly casual interpretations of Vulcan cultural practices and patterns. He was the only one on Star Base IX who could make a joke about Vulcans without offending any listening Vulcans. (Being such sensitive telepaths, Schillians are constitutionally incapable of deliberate offense.) In fact, his tactless diplomacy saved more than one touchy situation by detonating laughter at the expense of the only ones who can really take it without getting violent. More than once, he used his unique method to inform the Vulcans that there was a misunderstanding in progress, and that the Vulcans were the worse offenders.

As maturity brought increased competence and widened horizons, Ssarsun discovered that he was dissatisfied with his career. He looked hard and long at the political situation in the Federation. Using the perspective he had gained through Spock (the most highly placed Vulcan he'd ever shared perceptions with), he began to see the trends and tides of history. He dug out texts on the mathematical sociology he'd studied on Vulcan and relearned everything he thought he'd known. The kataytikh and Guardian viewpoint he'd gained from Spock changed many of his opinions.

He could see now how the Federation and emotional peoples, humans in particular, were a real and grave threat to Vulcan. He began to see how non-humans and telepaths in particular were treated with a slight but very real "keep your distance" attitude. Even the humans themselves weren't aware of what they were doing... or no telepath could have missed it. The humans who were destroying Vulcan were doing so inadvertantly, and could never be convinced that they were doing so.

And he began to arrive at the same conclusions that Spock came to-- the only way

to salvage any fragment of Vulcan's form of sanity was to effect the Federation with non-human values as strongly as the Federation was affecting Vulcan and other non-human cultures (for Vulcan wasn't the only culture loosing its identity).

Asking himself how one, particularly cosmopolitan, Schillian could best contribute to the "war effort" which Spock was mounting single handed, Ssarsun came to the conclusion that it was time for a Schillian, a non-human telepath, to move into the higher command eschelons of Starfleet. He didn't know if he, himself, would be that person. It wouldn't really matter. But his role was, he decided, to begin to open that door to his colleagues.

He applied for and received an appointment to the Academy of Starfleet where he entered training for "command". It wasn't easy, particularly being the only Schillian on the base (there were other telepaths around, but always few and transient). The Federation's law that nobody could captain a vessel on the Federation routes (or in Starfleet) if they were in deep telepathic contact with another being, would always keep him below Command rank, but Ssarsun was playing Spock's hunch that such laws weren't long to live.

Eventually he worked his way up the chain of command of the smaller Starfleet ships until he was Second Officer of a survey craft... a flying laboratory that was three-quarters library computer and half auto-analysers... leaving little space for the crew. The crew consisted of the Captain, the Science Officer/ First Officer, Second Officer Lieutenant Commander (regained his rank) Ssarsun, Engineer and three engineering crewmen, Medical Officer and two assistants, Records Officer, Communications Officer, and thirty others who manned the laboratories. Forty-three in all, though the ship could accomodate 55 in an emergency.

Crew facilities were cramped and sparse by Starship standards, though the scientific potential of the little ship almost matched that of a Starship. Their main job was initial planetary surveys, and if their work turned up anything interesting, a Starship would be following. Ssarsun's usual assignment was navigator-helmsman and he shared quarters with the other navigator-helmsman so that they were never off-watch together, hence didn't interfere with each other much.

The only other Schillian aboard was the Records Officer, a civilian employee eager to get home and thoroughly miserable with the "life of adventure" that had seemed so romantic. The Records Officer, Hisotyr, was not of Ssarsun's sex but of the more vulnerable sex. He was acutely lonely for the mass-melds of Schillia, and constantly grasping for deeper contact with Ssarsun eventhough Ssarsun's mental attitudes were somewhat revolting.

Ssarsun too was repelled by Hisotyr's need for deep contact. Yet he was Schillian enough to sympathize, and that sympathy awakened instincts he'd hardly been aware he possessed. If there had been a third of the proper sex present, the triad would have gelled instantly. The absence of that third was both salvation and torture, until Hisotyr jumped ship and deserted. Since he was only a civilian employee, it wasn't a crime. The only penalty was financial, and Hisotyr would have gladly faced court martial to get off ship.

It will forever remain moot whether Hisotyr would have deserted Ssarsun to insanity by sensory deprivation, but fortunately his breaking point came as the ship took up orbit around Memory Alpha, there to disgorge accumulated statistics from the last five planets visited. And stationed on Memory Alpha there was a telepath who was also employed as a Records Officer.

Her name was Amy Bedford, and she was a citizen of Lythia... a breath of fresh air and sunshine to overtaxed emotions.

Here it might be well to say something about Schillian physiology. The only little

problem is that not much is known about Schillian physiology. They are relatively new members of the Federation, having joined barely 25 years ago and having begun to establish free contact only about fifteen years ago when they gave the UFP the planet(oid) of BABEL to use as a neutral meeting grounds in diplomatic negotiations.

We know that they have two separate respiratory systems, both of which require exercise for health. They are susceptible to irritation of the mucous membranes from chlorinated water. They have two sets of nictating membranes which adjust their eyesight for both brightness and focus under water. They have webbed fingers as humans have clawed fingers... vestigially yet somewhat usefully. Their skin color changes markedly with the stages of maturity reached (not by race) being a very light, pinkish grey during childhood and shifting gradually through whitish grey during adolescence. At the age of maturity and mating, the skin tones take on a faint bluish cast.

If mates are taken at this time (which lasts for several years but finally does end) the skin tones become gradually a dull blackish grey. But if no mates are taken, the skin becomes ever so slightly greenish-yellow-grey with the grey still dominant. At this point it is no longer possible for the Schillian to mate. Many "career" type people choose not to mate and are respected in that choice provided it is made through the Oracle.

Schillians are extremely sensitive with regard to sex, preferring that all their sexes be given the same pronoun. They can tell each other apart at a glance but studiously refrain from acknowledging sex. The dominant culture subscribes to the one-mating-triad-per-lifetime ideals, but this is not physiological. Their passions both in and out of a triad are easily aroused and extreme. One should never joke about a Schillian's sexual habits (even memory of having made such a joke can be awkward when dealing with telepaths).

Schillian genetics are based on threes. They are triploid, to coin a phrase. There is no egg/sperm fertilization, but rather three cells which must come together to form a viable zygote. It is erroneous to label any one of the three "egg". During gestation, the foetus is passed from one parent to the other until all three have "carried", though there is one, particular sex which incubates to term, putting the most growth and weight on the foetus. However, this is not the same sex which concerns itself with the care of the home and the raising of the children. Ssarsun is of this child-raising sex. The sex that carries the foetus to term is not the vulnerable sex.

It is considered grave misconduct to allow sexual interest to develop in the absence of a third of the appropriate sex. Morals are a community affair among Schillians due to the meld-nets they hold.

END

(temporarily)

"Fear not your ignorance of the universe; rather strive to enlarge it, for to know that one knows-not is also wealth incomparable."

from the Book of Imperatives

"And let thee not declare that the outsider is less than one among thy household. For does the clothing make the needs less imperative, or the speech, the bonding less complete."

from the Book of Life *

IN DEFENSE OF T'YUZETI

by Jacqueline Lichtenberg

SPOCK'S LAMENT

Would that T'Yuzeti had been my mother!
And T'Uriamne my sister.
Let Amanda be my father's wife.
But let her give life to no other.

PART I:

T'Yuzeti³ was Sarek's first wife.¹ She was the mother of T'Uriamne, Spock's half sister.¹ She died leaving Sarek a widower at a very early age.¹ Let Her Memory Bring Peace.

According to Dorothy Fontana, writer and script consultant for Star Trek, Spock's father has been married only once... to Amanda. Spock is an only child. There are absolutely no other siblings. This assertion was made as of September 1967. In November of 1967, the Star Trek staff had still made no definite statement that the pon farr occurs at any specific age or at any specific interval. At that time, Miss Fontana asserted that Sarek's first pon farr may well have been at age 64. Spock's may occur earlier due to his half-human physiology.⁴

At a later date ("The Cloud Minders" see also reference 6.), Spock asserts that the seven year cycle is inherent in all Vulcans, but that extreme feminine beauty is always disturbing. In The Making of Star Trek we learn that the seven year cycle is the maximum. Lesser intervals are expected for a male living among his family. And we learn that these intervals may be irregular or governed by unspecified factors.

Nevertheless, it's a severe physiological upset calling for maximal nerve stimulation. Very little can be inferred about Vulcan nerve relaxation times, however, it seems obvious that copulation could not recur with anything like the frequency observed in the human male.

Since it was stated that the seven year cycle is inherent in the Vulcan male, and nowhere is it tied to Vulcan's seasons or year, we can only make a reasonable guess as to what the minimum might be. For the purposes of this argument, let us assume that the period might, in a young, vigorous male, be accelerated to three times its maximum duration. That is, pon farr might occur three times in seven years, or every 2 1/3 years (though the interval might be irregular). We will refer to this as the two year cycle.⁵

We have no direct, authoritative information regarding at what age pon farr can be expected to start.⁶ To deduce this, we must go far afield and construct long and perhaps unjustifiably intricate chains of reasoning to fill in a background which has been left blank.

Therefore, let us outline our argument here so that we may keep our goals clearly in mind.

I. First we will establish that, in view of the seven year cycle, Miss Fontana's earlier assertion that 60 might be a possible age for a first pon farr must be discarded.

II. We will establish that 30 is a more reasonable estimate.

III. We will establish that all Vulcan children are mated at an early age.

Then, given that first pon farr occurs around 30 years of age, and that all Vulcan male children are mated at an early age, it follows that Sarek was married previous to his marriage to Amanda.⁷ However, it does not follow that there were any children by that marriage or that they survive. This cannot be determined from background data, but it can be postulated for the sake of story development.

In view of the unanimous, and well studied, choice of the Star Trek management to maintain that Spock is a lone sibling, and in order not to destroy the personality dynamics developed within Spock as a result of being alone, we chose to postulate a single female sibling who is sterile, and who is unalterably opposed to Sarek's marriage, who also views Spock as a potential danger to Vulcan's social structure. She is more utterly estranged from Sarek and Spock than Spock was from Sarek. Spock's knowledge that this blood relative exists and his certainty that she cannot be persuaded to come home serves to intensify the personality dynamic that the Star Trek management so carefully fostered.

Thus we will justify T'Yuzeti's existence, and the existence of her daughter, on two levels; the logical consistency of the Vulcan background and the artistic integrity of the basic material established by Star Trek management, i.e. Spock's singular loneliness.

Let us now examine what may be deduced from the inherent seven year cycle.

Here we must draw upon other sources for additional background information. It has been established,² and generally accepted, that Vulcans live an average of 250 years and begin to show signs of "middle age" after 100 years.⁸ No great disparity has been established between the "standard year", the Terran year, and the Vulcan year. We may assume that the variance is no more than 30% and need be considered only when discussing a period of more than one lifetime. These three year-lengths are "comparable".

We will further assume that all quotations involving Vulcans have been adjusted to the standard year which will be taken to lie between the Terran year and the Vulcan year. We will further assume that the standard year is an average of the years of all Class M members of the Federation. We will assume that the use of the standard year introduces no more than a 10% error in the result of any calculation pertinent to this argument and that for the sake of this argument such an error is negligible.

Let us test this assumption. If first pon farr occurs at age 30 standard years (abbreviated s.yrs.) with an uncertainty of $\pm 10\%$, that introduces an error of three s.yrs. It makes no difference if the true median age for first pon farr is 27 s.yrs. or 33 s.yrs. because 33 s.yrs. is appreciatively less than 64 s.yrs. If first pon farr occurs at a median age of 64 s.yrs., with an uncertainty of $\pm 10\%$, that introduces an error of 6.4 s.yrs. This is also negligible as the spread is then 57.6 to 70.4, which doesn't overlap the 30 ± 3 curve.

If the average life expectancy of the modern Vulcan is taken as 250 s.yrs., and first pon farr can be expected at about 60 s.yrs., then there is an average of 190 s.yrs. of life after first pon farr. It seems preposterous to assume that all 190 years are fertile years.

The differences between human and Vulcan are great, but the similarities, while more subtle, are also great. There exists a viable hybrid.

We have observed outward signs of physical aging in Vulcans both in "Journey to

Babel" and "The Deadly Years". The assumption that there is no inward aging would be difficult to justify. But the assumption that the aging process follows the human curve would also be difficult to justify.

We have observed that "middle age" begins after 100 s.yrs. We have observed one case of middle-age-type heart difficulty at age 102 s.yrs., though that was considered early for such an affliction. Let us assume that this is roughly comparable to heart problems at age 45 for a human.⁹ So the first signs of aging may be expected in a Vulcan at approximately 130 s.yrs.

If we assume the aging curve for Vulcans and humans are analogous and physical degeneration sets in roughly simultaneously with the "change of life", this would mean that Vulcan males begin to experience a decline in fertility after age 130 s.yrs. But an exact analogy can hardly be expected, so let us add roughly 25% to 130 years and estimate a very approximate 165 s.yrs. before a Vulcan male can expect a decline in fertility with a concurrent lengthening in his personal pon farr cycle. But he wouldn't expect the cycle to disappear until extreme age enfeebled the body.

Given a first pon farr at 64 s.yrs. and a decline at 165 s.yrs., we may estimate a very rough 100 years of fertile life for the "modern" Vulcan male. This means as few as 14 fully fertile copulations by the seven year cycle, or as many as 50 by the two year cycle.¹⁰ (I choose to deal with round figures as much as possible.)

These figures hold only for the "modern" Vulcan raised on balanced diet and with the benefit of modern medicine both preventive and therapeutic. (see Part II.) The number of fertile copulations a primitive Vulcan would average would be much smaller. But, let us work with the maximum number of 50 fully fertile copulations. If we find 50 fully fertile copulations to be insufficient, we know that we must lower the age of first pon farr.

We will add 50% to the number of fully fertile copulations to account for the tail-off as fertility declines and the pon farr cycle lengthens. So we will give a modern Vulcan male a potential of 75 fully fertile copulations, bearing in mind that this is an absolute maximum.

Now, we must draw heavily on a very shaky analogy. Any serious disagreement with this argument will probably center on this section. We must deduce the mechanism of Vulcan reproduction by analogy with the human mechanism. The validity of the analogy is supported by the unexplained and apparently unremarkable existence of a viable hybrid.

By this analogy, I postulate that the male Vulcan produces vast quantities of life cells comparable to sperm, and that the act of copulation deposits a large number of these cells within the female.

I postulate that the female produces life cells singly as does the human female. These cells have characteristics roughly comparable to those of the human ova.

The reverse, many ova and fewer sperm, might be acceptable because it would result in a high number of multiple births. This might be compatible with the known ruggedness of Vulcan physique. However, if all Vulcans had two or more twin brothers and sisters, and Spock had none, it would certainly have been mentioned. Therefore, I presume that the incidence of multiple births is higher among Vulcans, but not so high that the single born is an oddity.

Again drawing on Vulcan-human analogy, let us attempt to establish the average size of a Vulcan family, assuming no attempt at population control. (see Part IV)

The comparable fertile lifespan of the human male can be taken to be from 18 to 60 years (Terran years) or approximately 42 T.yrs. During this time, assuming early

marriage and no contraception, a fertile couple can expect 10 to 15 pregnancies. But the number of copulations is much higher. Assume 9 times a month for 42 years or 4,536 copulations per 15 pregnancies. This represents a ratio (in round figures) of 300 copulations per pregnancy. Of course, this is misleading as it ignores the factor of female fertility.

However, it is informative because fertilization is a statistical process among humans in the primitive state where no knowledge of means of affecting fertility exist, and it is on this statistical process that racial survival has rested since the species became identifiable.

We draw on our analogy to postulate that reproduction among Vulcans is similar enough that analogous statistical laws apply.

If 300 copulations are required to produce one pregnancy and a fertile male only copulates 75 times in his life, he may have at most one child. Under primitive conditions, the race could not have survived. Obviously the race has survived. Therefore, we must modify our statistical ratio.

One modification is obvious. On a two year cycle of the male, pon farr would not occur during pregnancy and possibly not during lactation, assuming a roughly comparable gestation period.

The human male wastes approximately 100 copulations per pregnancy, assuming 12 infertile months per pregnancy. That reduces the ratio to 200 copulations per pregnancy.

That still isn't nearly enough for racial survival.

Therefore, there must be another factor operating on the Vulcan statistical distribution.

Let us assume that, since the Vulcan male's reproductive drive is radically different from the human, the female cycle may also be different. Let us assume that the female cycle is tied to the male cycle... that the imminence of any pon farr male triggers female fertility¹¹, provided she is on the proper segment of her fertility curve. Let us assume that the Vulcan female also has a fertility cycle that is much longer than the human female's cycle. (see Part VI)

This means that every copulation of the Vulcan male occurs during the fertile period of his female. (see Part IV)

The human female's fertile period is independent of the male's and lasts for approximately 6 days of the month. We may assume that 3 copulations would occur during this period under random conditions.

Assuming 15 pregnancies, for a human couple, and 12 months infertility per pregnancy for a fertile lifetime of 504 months (42 years, 18-60) we get 324 months of high fertility per fertile lifetime. Assuming 3 copulations per 6 day fertile period over every one of those 324 months, we get 64 maximum fertility copulations per pregnancy. Of course, a human male could have more than one wife and many more than 15 children but we're averaging for humans and maximizing for Vulcans to get an order-of-magnitude estimate.

Transposing to a Vulcan lifetime, this means that a fertile male will copulate 75 times under maximum fertility conditions at a rate of 64 copulations per pregnancy, implying 1 and possibly as many as 2 pregnancies per lifetime. That is still not enough to permit racial survival. Not every pregnancy goes to term. Not every child survives to maturity, especially if sexual maturity occurs at age 64, the rate would be very low.

There must be yet another factor at work regulating Vulcan fertility. To find that factor, let us draw on Vulcan telepathy.

Nature operates statistically toward the survival of a species, even on Vulcan. Those who had more children would have more grandchildren, and the factor which allowed them to have more children would diffuse and eventually dominate the gene pool.

To counteract the infertility that results from the pon farr cycle, I postulate that nature endowed Vulcans with a sort of contact telepathy which serves a number of purposes in the area of reproduction.¹² Its primary purpose is to provide the mechanism by which the female's fertility is triggered. Its secondary purpose is to assure mutual sensitivity so that every copulation is perfected for a maximum chance at fertilization. (see Part III)

Let us assume that this factor, coupled with unusually long lived and vigorous sperm, boosts Vulcan racial fertility 50%. The average male Vulcan could still only expect 4 children in his entire lifetime.

We're approaching the right order of magnitude, but we still haven't reached it. Even assuming the Vulcan sperm live two or three female cycles, immune to or out of reach of the female menstrual chemicals, racial fertility is still too low.

Terran species who experience rut generally do so on a seasonal basis, and are not generally subject to total madness that must end in copulation or death.¹³ The females produce litters at least once a year. Larger animals such as the elephant and the whale produce one or two offspring, but do so on a regular basis. Herd animals such as horses, cattle and deer generally have a large number of females for every male. But the young are produced during the season most hospitable for survival. And they grow to independence in a relatively short time.

An intelligent species of bisexuals whose males experience rut out of step with the planetary seasons and whose incidence of multiple births is not remarkably or consistently high is going to have a fertility problem.

The ova might become more susceptible to fertilization so there would be fewer wasted copulations. But this would increase the incidence of fertilization by weak spermatozoa, thus decreasing the survival rate of infants or increasing the rate of propagation of undesirable characteristics.

Another compensation would be increased fertile lifespan. (see Part II)

So we've accomplished our first goal.

If the Vulcan male living away from home experiences pon farr only every seven years, maximum, and the minimum duration of the pon farr cycle of 2 years is too long for racial survival, and not every male would live at home or sustain a two year cycle, or survive to age 165, then we must assume that the pon farr cycle would begin as early as possible.

Let us see how an additional 30 years of fertile life would affect Vulcan racial fertility.

An additional 30 years would add 15 copulations per lifetime... but these are not 15 equivalent copulations to be added to the adjusted figure of 75 copulations per lifetime, but 15 copulations during the period of maximum vigor. Add 15 to 50 to get 65 maximum fertility copulations per lifetime. This is adjusted by 50%, adding 33 equivalent copulations per lifetime, to account for the tail-off as fertility declines and the pon farr cycle lengthens. This gives 98 equivalent copulations per lifetime. ¹⁴

Assuming a slightly more susceptible ova, this gives us 2 perhaps 3 pregnancies per full Vulcan lifetime. If we double this to account for the effect of telepathy and longer lived sperm, we get 6 pregnancies (not mature children) per lifetime of a maximally fertile couple. This would be acceptable in a modern society where every pregnancy has a better than 50% chance of producing a mature offspring. But in the brutal, primitive subsistence economy of the bush tribe, it won't do since the corresponding figures for a bush tribe would be 40 fully fertile copulations instead of 98. (see Part II)

We may postulate that due to their more rugged physique, Vulcan women have a better ability to carry a pregnancy to term even in a hunting and gathering economy. We may postulate a higher incidence of multiple births, especially among overworked and underfed women. We may postulate a higher survival rate of Vulcan infants due to that same rugged physique. We may postulate a faster pon farr cycle among overworked and underfed men... especially in the early years of their lives.

And taking all these factors together, we may conclude that the Vulcan race is viable... just barely. Provided the pon farr cycle begins early. There would be a strong selection factor for this tendency.

It may not have been unusual for the overworked and underfed offspring of overworked and underfed parents to begin the pon farr cycle in their twenties. The effect of cultural affluence would be to lengthen the post-adolescent pre-pon farr interval. Hardship brings early puberty and early death.

We have accomplished our first two goals. We must further establish that all Vulcan males are mated at an early age.

In "Amok Time", it was stated that the Rites of the Marriage Ceremony come down from the dawn of time. They are obviously a means of curbing the wild, animalistic instincts that are triggered by pon farr. The pon farr male is quite ready to fight and kill for the female he wants. What happens if an unattached male goes into first pon farr and desires somebody else's wife? Every male will guard his wife for his own use¹¹. in an instinctive reaction that has nothing to do with love-jealousy as humans understand it. The species has a built-in drive to reproduce. The interest is not so much in the pleasure of copulation as on the successful impregnation. (see Part IV)

Therefore, one of the inter-cultural constants found everywhere on Vulcan from the dawn of time (even stronger than human incest taboos as some human tribes practice incest regularly) would be the absolute necessity to mate a boy before he approaches puberty. The age of this attachment ceremony was probably chosen during earliest times when pon farr began soon after puberty. The means of attachment is provided by nature... the telepathic faculty whose primary purpose is to increase racial fertility. (see Part III)

Two minds are joined, even though they are just children, in such a way that the male will covet no female but his own even unto death. Thus the stability of the society is assured.

Now, given that first pon farr occurs around 30 years of age or possibly younger, and that all Vulcan children are mated at an early age, it follows that Sarek was married previous to his marriage to Amanda.

LET THE MEMORY OF T'YUZETI, SAREK'S FIRST WIFE, BRING PEACE.

PART II: The Effect of Technology on Fertile Lifespan

Let us consider the effect of developing technology on Vulcan racial fertility. This will account for increasing knowledge of hygiene, therapeutic, preventive, and geriatric medicine as well as the increasing ease of living... higher quality nutrition and a dependable food production, storage, and supply system.

What would be the natural lifespan of a Vulcan in a primitive hunting and gathering economy? A reasonable estimate can be made from analogy with humans. Under primitive conditions a human male who lived to 35 or 40 years would be considered fortunate. This is a roughly 2/3 of the way to the "end" of his fertile lifespan.

If we look at the history of increasing lifespan on Earth, we see that the greatest strides have been made just subsequent to the industrial revolution. That is, the major increase in human life expectancy occurred during the twentieth century.

Toward the end of the twentieth century, the infertile, declining years of a man's life were being lengthened and made more productive but the fertile lifespan had approached a maximum which may be considered an inherent characteristic of the species (with room for racial variation). Let's take this figure to be approximately 60 years.

If we take 165 as the "end" of the Vulcan fertile lifespan and assume analogy with humanity, 2/3 of 165 is roughly 110.

The average, primitive Vulcan would have considered 110 a proper old age. The remaining 140 years are the fruits of technology.

So, a primitive Vulcan male would have had 50 (110-60) fertile years of life or at most 25 fully fertile copulations. This is too low for racial survival. (110-30 = 80 years or 40 copulations for the primitive Vulcan male if pon farr starts at 30.)

As technology increased the total lifespan, the fertile lifespan would increase to age 160 after which total lifespan would continue to increase while fertile lifespan would remain unchanged.

Therefore, primitive Vulcans would have had, at best, an underpopulation problem while modern Vulcans would share the problem for different reasons.

Part III: The Role of Telepathy

Telepathy, nature's answer to Vulcan infertility, has been impressed into the service of Vulcan society.

There are many different Vulcan mental disciplines, and of these, several employ telepathy to one degree or another. We have seen Spock implant ideas in "The Omega Glory", "By Any Other Name", and "A Taste of Armageddon". And by another method in "Spectre of the Gun". We have seen him extract information in "Mirror, Mirror" and "Dagger of the Mind" and by another method in "Patterns of Force". We have seen him engage in conversation in "Is There In Truth No Beauty?", relieve pain in "The Empath", and we've seen varying degrees of mind-meld in "The Paradise Syndrome", "Is There In Truth No Beauty?", "The Devil in the Dark", "Changeling", etc.

We've heard mention that non-Vulcans have gone to Vulcan to learn Vulcan mental shielding techniques in "Is There In Truth No Beauty?" and that these techniques are, at least partially, the result of the need to counter the disturbance of other's emotions. The channel to a Vulcan's emotions is through his telepathy.

Vulcan society has used this channel to solve one of humanity's greatest problems, sex education of the young.¹ At an early age, usually around seven s.yrs., Vulcan children are "mated" in an engagement ceremony which is more than a betrothal and less than a marriage ("Amok Time"). This ceremony takes place before the onset of puberty in order to avoid the risk of premature arousal of sexual interest.¹

The dominant event of the ceremony is the "touching" of minds. The children become "never and always touching and touched" implying that they've never experienced physical contact and yet are in constant mental contact (of a sort).

Since the most effective telepathic contact in the Vulcan mode requires physical contact, this state could only have been established through a third party. This third party will be termed the Official. (Within the framework of Kraith, this Official would be a Kataytikh.)

The Official establishes the state of "always touching" and then, in contact with both of the children who are not in contact with each other, he implants the geographical tie, so that at the onset of first pon farr, they will both be drawn to the place appointed. Then they are both free to go about their lives in the surety that, at the proper time, they will both return to the appointed place.

We know that the parallel Spock drew with the migrating animals was misleading in this regard, because when he confronts T'Pring, he affirms, "We meet at the appointed place." To say that a place is appointed is to imply that someone appointed it and not that it is the focus of a natural homing instinct.

The true natural homing instinct is toward each other, but if both subjects are moving, they may waste valuable time. However, if both move toward a mutual goal, meeting is assured. In the case of two adults who contract a second marriage, there is no Official necessary, and they choose their own appointed place.

The Official's third job is to give each child a complete sex education. The male learns to understand and the female learns to understand, and, to a certain extent, to control male reactions. They learn the physiology and psychology and all the norms and the social mores.

But all that the children remember is that the knowledge will be available when it is needed. All curiosity about the subject is erased by an impression of satisfied curiosity.

In addition to the practical sex education, the Official also gives the children the complete legal and ceremonial history of marriage. They learn the ritual speeches, a knowledge of their rights... and the male learns the use of the ceremonial weapons used in the challenges.

This type of skill transfer is possible because of the Vulcan brain. Spock could sight-play a complex piano waltz when he obviously doesn't spend most of his time practicing piano ("Requiem For Methusalah"). A Vulcan acquires a skill and it doesn't deteriorate markedly with time. He doesn't acquire it by the same repetitive training that a human does but merely sees what must be done and does it. A weapon skill could be telepathically impressed on such a brain... especially at an early age.

All of the knowledge provided by the Official becomes available during the onset of first pon farr. One of these items of information would be the symptoms of pon farr. This could explain why Spock waited so long to request leave. Failure to recognize the earliest symptoms might be quite common. Or his dual heritage may have altered the pattern enough so that there was confusion... or an emotional reluctance to admit the fact which

wasn't undeniable. (see Part VI)

Spock also insisted ("Amok Time") that Vulcans did not and could not discuss the subject... even among themselves. If it's not discussed, how is it taught? The answer lies in the above thesis.

PART IV: The Vulcan Attitude Toward Planned Parenthood

As we've seen, Vulcan's population problem has always been the opposite of that of Earth.

We have also seen that nature has striven mightily to overcome the infertility that has threatened the survival of the Vulcan species. How nature could have created such an infertile species is explained in Part V. But given the species and an ecological niche for it to occupy, its survival must be precarious at best.

Nature's most potent weapon against the Vulcan's desire to use their intelligence in choosing the time, place and number of births of their children is the pon farr. Nature's second most potent weapon is the telepathy. Between these two weapons, she has made it virtually impossible for a Vulcan to even consider interfering in any way with the natural process of procreation.

In this, nature may be her own worst enemy as modern Vulcans would undoubtedly use their enormous medical skills to stabilize the population at an optimum level. However, nature is well known throughout the galaxy as a blind mistress.

The Vulcan attitude toward the idea of interfering with intercourse is one of emotional revulsion turning to a deep horror and an inability to even consider such a proposal rationally.

Let us examine the mechanism behind this attitude.

The pon farr is an acute chemical imbalance that drives the male into a state of obsession. It's more than rut. Because of the crucial population shortage, nature has arranged for every copulation to count. There must be the deliberate, serious attempt to create life. There must be the serious committment to receive, shelter and raise a child to maturity. Commission of the act creates a total involvement on a much deeper level than the marital attachment of humans and that involvement doesn't depend on any emotional consideration for its viability. (Herein lies one of the important reasons why Vulcan could eradicate emotion from society without destroying society.)

The male must have this serious committment to create life or the pon farr will not be broken. He will be spent... expended... and yet not returned to a normal state. The result is a long, lingering hypertension that may result in exhaustion and eventually death, a particularly horrible kind of death.

Telepathy enters the picture here. The male must know that the female is sincere in her committment to his child. He must literally take her mind into his own and know every trait. Nothing may be hidden.

The females of Vulcan, therefore, are as severely limited on family planning as are the males.

If pon farr is terminated by a strong emotional shock, there is the danger of incomplete termination leading to hypertension of unpredictable degree.⁶ Therefore, this

method of termination is never employed deliberately. The victim himself could never advocate this method, and his associates understand that a swift, clean death is to be preferred. At the very best, a strong emotional shock¹⁰ might sever the "always touching" tie, but leave the victim in a non-lethal state of tension in which he'd be sensitive to femininity.

Such a condition would be extremely rare, so rare that society would have no swiftly moving machinery for dealing with the situation. It could develop only after a pon farr, so the victim would be a responsible adult with full knowledge of the social implications of his condition. He would be under a social compulsion to form a new attachment as soon as possible.

The urgency of this need, however, would be regulated by several factors. The number of females available in his age group would be one consideration. Given that parents cannot attempt to choose the sex of their child, the male-female balance in a given generation would be statistically regulated. Given that Vulcans are basically warlike and have only recently begun to impose peace on their society, one would expect a preponderance of males. However, the analogy with humanity breaks down in this because of the lethal nature of the pon farr and the possessiveness of the Vulcan male for his woman. The first generation after the Reforms undoubtedly was under great stress during its first hundred years as it lost many males to first pon farr. But nature would have struck a new balance very swiftly. In modern times the ratio would tend to remain near 1:1 with perhaps a slight preponderance of females as a safety factor.

A second factor would be the proportion of time spent within Vulcan society. If he were not constantly exposed to married Vulcan females, he would constitute less of a social irritant.

A third consideration would be the estimated duration of his own pon farr cycle, and the completeness of the termination provided by the shock.

A male left in this condition would not be beyond the jurisdiction of the social machinery meant to deal with the unattached male. It might take some time, since Vulcans are loath to hurry and regard privacy as sacred, but eventually if he hadn't solved his problem, the machinery that normally deals with premature widowhood and divorce would take over.

The difficulty of finding a second mate coupled with the inevitable necessity accounts for the small number of Vulcan males who have married outside their species. The most serious difficulty these women face is in the area of family planning, and this concludes the discussion of those difficulties.

PART V: The Origin of the Vulcans

In "Return to Tomorrow", Spock says that the existence of an ancient, humanoid race colonizing the galaxy in the distant past would explain certain anomalies in Vulcan pre-history. He implied that Vulcans aren't native to Vulcan. This would explain why the pon farr cycle isn't tied to Vulcan's seasons. It would also explain Vulcan cross-fertility with other humanoid life in spite of the copper-based blood chemistry.

Such an inhospitable planet as Vulcan would be colonized with heavy reliance on technology. If that technology collapsed, the colonists would be at the planet's mercy except for a few plants and animals that might survive with them.

The high solar radiation flux would increase the mutation rate. Dependence on

native foods might increase the chemically-induced mutation rate. The mutations might leave fossil records vaguely resembling evolution, and their descendants might eventually discover the anomaly in the evolutionary record.

The hypothesis that Vulcans aren't native to Vulcan also explains the existence of the Romulans. The Romulans may not have been the descendants of a lost Vulcan colony ("Balance of Terror") but descendants of the same race that colonized Vulcan. Assuming a common parent for both the Vulcans and the Romulans, avoids an awkward rise-fall-rise sequence in the recent history of Vulcan technology.

PART VI: Infertility in the Vulcan Female

Let us attempt to deduce the length of the period of infertility in the Vulcan female cycle.

In "Amok Time", it was established that for a half-breed, the time between loss of control and death was about 7 days. We may presume that this is faster than usual for a Vulcan and further, that the time from onset of first symptoms to loss of control was unusually short. (see Part III) If these times had been of the usual lengths, Spock would certainly have taken steps to obtain home leave. He didn't attempt to obtain leave before he lost control. Therefore, he probably intended to request leave on the way back from the diplomatic ceremonies at Altair.¹⁵

It seems reasonable to suppose that Spock, having gained access to the engagement ceremony's information, assumed he had two weeks when he only had one. Had it been two weeks when he only had one. Had it been two weeks, the Enterprise would have been on the way back past Vulcan at just the time when it became imperative for Spock to go home. This implies that a Vulcan male can wait two weeks if necessary. Indeed he may be highly motivated to wait. (see Part IV)

We may then presume that the female period of infertility doesn't exceed two weeks. If this is a minor percentage of the total cycle, the total cycle may be twenty, or even forty, weeks.

FOOTNOTES:

1. Fact established by this author for the purposes of this work only.
2. Fact established on the air, in The Making of Star Trek, or in the Star Trek Guide.
3. The Vulcan name sounds very much like "Tuesday" pronounced with a British accent.
4. Spockanalia #2, a fan magazine published by Devra Langsam,
5. A factor of three is assumed even though accelerating the average human male's period by that factor would usually result in temporary impotence. We're attempting to estimate an order of magnitude of a maximum racial fertility for the Vulcans.
6. If we take the production sequence of the Star Trek episodes to be the real time sequence in which the characters experienced them, we see that although Spock was in his mid-thirties, two strong stimulations immediately preceeded his first pon farr and may have precipitated the event which might have been postponed indefinitely because of his hybrid make-up. "The Naked Time" and "This Side of Paradise". Immediately

following his divorce, two women affected him deeply, but not totally, "The Enterprise Incident" and "All Our Yesterdays". This may have been possible because he was in a hypersensitive state.

7. He could not have been originally mated to Amanda because he's so much older. Also, in "Journey to Babel", Spock asks Sarek why he married Amanda and Sarek answers that it seemed the logical thing to do at the time.

8. Spock's hair turns grey and lines show on his face only after McCoy proclaims him in perfect health for any Vulcan the high side of a hundred. "The Deadly Years".

9. We've no way to establish the human lifespan of the 22'nd century. However, it's assumed to be in the neighborhood of 100 s.yrs. Perhaps as great as 140 s.yrs. in individual cases. Here, we must assume 100 s.yrs. for the average. This might be as much as 110 Terran years. Thus age 60 would be human "middle age". Since Vulcans live 2.5 times as long, we add 30 years. see also Part II.

10. Assuming one copulation per pon farr. Nowhere is this established. Presumably the culminating experience must be of the order of magnitude of the disturbance driving the male to the experience. If it is of that order, it should break the drive. Of course, that wouldn't apply to a half-breed. See also Part IV.

11. In "Amok Time", Spock was upset that Christine came to serve him food because he was not "hers". Presumably, on no other occasion has he objected to the proximity of a female. This must be a cultural value that is operative only during pon farr. What would be the basis for such a value? If a female's fertility is triggered by the presence of a pon farr male, and that fertility is tied to a long female cycle (see Part VI) a male would resent having his female rendered infertile to him because she had been triggered by another at the wrong time. This would be especially true if the postulated low birth rate were a severe, long standing problem. Of course, the pon farr male would also resent having his condition aggravated by the proximity of an unavailable female. Even if she were willing and free, she is unavailable because he is tied to another.

12. Spock's reluctance to employ mind-meld in "Dagger of the Mind" and elsewhere, and his statement that it is a deeply personal part of Vulcan private life is indicative of the basic function of telepathy in Vulcan society. That the intelligent, civilized Vulcans found other uses for the faculty is irrelevant. It is primarily connected with reproduction. Its use in the engagement ceremony supports this idea. See also Part III.

13. Certain migratory species will destroy themselves in the frenzied attempt to reach their spawning grounds but such spawning grounds are areas most hospitable to the growth of the young and such species generally have a high incidence of multiple births.

14. This adjustment is, of course, quite arbitrary, and the pertinence of it is subject to debate. We can justify it only by pointing out that we are dealing with truly statistical quantities and are interested in the ratio of copulations to pregnancies. Since the additional 15 copulations have a higher probability of producing a pregnancy than the other 50, we weight the trial-off factor to account for this. We're interested in estimating the maximum, not in calculating a precise mean.

15. It may be that during the first pon farr the victim is reluctant to succumb. His closest associates may be compelled to care for him over his strenuous protests. This would explain Spock's invitation to Kirk and McCoy to attend the wedding ceremony in spite of the fact that Kirk should have left Vulcan and warped for Altair. The best-man tradition would hold no meaning in Vulcan society but close associates would assume certain responsibilities for one another during the irrational state.

THE VULCAN REALMS

by Jacqueline Lichtenberg

The following are some random and disorganized thoughts on the subject of the inheritance concept on Vulcan. This is intended as an informational discussion for potential Kraith authors.

The youngest son receives the Tradition from the Grandfather. When the Grandfather (this pertains to kataytikhe only) is his oldest and "wisest" you might say, he is best able to instruct the child in the nuances of the Tradition. This is the mechanism by which tsaichrani is stabilized some would say ossified or fossilized. It is the mechanism by which the establishment maintains itself in power. It is the inertial fly-wheel that makes Vulcan society slower to change than the Catholic Church. The inertial guidance system can be shunted out of the circuit only by means of the full-dress meeting of the Guardian Council as in Kraith III.

If the Grandfather trains a grandson and then dies... and subsequently the father has another son-- that youngest son does not carry the tradition in direct line. That youngest son does not "inherit" even though the "rule" is that the youngest son "inherits". Yet that youngest son is a kataytikh. He conducts Affirmations, officiates at Bondings, mediates Zyeto disputes, etc.. He has a large part of the Tradition from his father's training and from his society at large (for he is expected to be more concerned with the present than with the past while those who "inherit" are expected to focus mainly on the values of the past.) It is said that the kataytikh preserves the past for the future-- this is true of the Guardians of the Tradition. Kataytikhe who are not trained by their grandfathers but only by their fathers or their uncles are said to preserve the present for the future.

But, such a younger son (or middle son) doesn't have the oldest, unbroken line of the Tradition. The father may give the child to an uncle to train or to a non-relative Elder. But he wouldn't then inherit his mentor's tradition automatically.

If it should happen that an Elder-- say T'Pau's father-- had no son, another kataytikh might give his son to T'Pau's grandfather to receive the Tradition from him. That boy would then be quasi-adopted into T'Pau's family and eventually become Kataytikh in her father's place-- but once removed from the direct unbroken line. That boy's sons would be given to T'Pau's father to train. Thus T'Pau's line becomes "extinct" in a sense. We now say that the adopted boy and his son are Kataytikhe of the Second Realm, meaning that they are once removed from the Tradition. (T'Pau's and Spock's families are two of the three remaining families of the First Realm.)

If it should happen that the youngest son is of such lesser accomplishment than the elder son, the Grandfather may choose the elder son to inherit. This would mean keeping the elder son with him until he dies. Normally this would be cruel, as an 18 year old wants and has a right to a life of his own. But if the grandfather is very old and the younger son either too young to train adequately before the expected death or if he is incompetent, then the Grandfather may ask the elder to take the Tradition.

This must be voluntary for a number of reasons. 1. Such succession can only take

place after a public demonstration of incompetence, which usually means a Zyeto match before the Council of Daughters. 2. It is not desirable to inherit, thus convincing an elder son who thought he was off the hook at the birth of a younger son that he must do this for the good of tsaichrani might not be too easy. 3. The elder son must then stay with the Grandfather learning, perhaps throughout his "free" years; those years between the completion of schooling and marriage -- the most precious and irreplaceable years.

It might also happen that there is such a disparity of personalities between Grandfather and youngest grandson that the grandfather would choose the elder grandson. Again the Council of Daughters would have to rule on the individual case.

This does not conclude the discussion of inheritance rights under Vulcan law and custom. As a general principle one can state that among Vulcans the most logical option will be the most suitable choice. Vulcans are never caught in the peculiar circumstance so prevalent under a "rule of laws not men" of having to do something unreasonable just because that's the way the law is written. The ultimate court of Logic is the Council of Daughters. If their Logic cannot resolve a difference of opinion, Guardians may be asked to sit on the Council. There are many highly sophisticated methods for arriving at a compromise under such conditions. They never fail to retain peace and a reasonable amount of satisfaction on all sides of the issue... however, it can be a lengthy procedure, as Vulcans are not prone to haste in a crisis.

On the other hand, the Vulcan machinery of government is highly flexible and can move with lightening speed when necessary and can accomplish objectives utterly unthinkable in human society -- such as a 99.99% effective reversal of a cultural value in less than an hour's time (or the time necessary to contact every resident on the planet. One hundred per cent is achieved within the time necessary to contact Vulcan citizens living elsewhere.) Thus the problem of industrial pollution would be solved on Vulcan by re-evaluating the attitude towards and the philosophy of the use of all manufactured articles. The mechanism of this is revealed in small part in Kraith III, but much more remains to be said about it. Tsaichrani is at once the most conservative and "hide-bound" society of the Federation and also the quickest to accomplish widespread basic changes -- the most flexible and sensitive-to-the-will-of-the-people-and-the-imperatives-of-the-times.

ZYETO:

"To every right there is a price. For the right to life one pays thrice: To the mother that bore thee, to the spouse that took thee, and to the death that awaits thee. Bargain well and be not blinded by the magnitude of the values, nor by infinitesimal profits."

from the Book of Imperatives

"As thee has shaped it, so must thee use thy Kraith." //Commentary: Harakn: Thee asks: What effect does thy shaping have on the use? Does not the outer shape reflect the inner mind?///##Commentary: S'A'Adshi: This was meant to be a proscription on the use of technicians for the construction of Kraiths.##\$\$Commentary: T'Pau: Yet this does not invalidate the Affirmation channeled through the acquired Kraith.\$\$

from the Book of Fragments *

A TRISOMIC MODEL FOR KATAYTIKHE GENETICS

by John Benson

ABSTRACT:

A model for the genetic characteristics of the kataytikhe as a result of an extra sex chromosome is proposed. Using analogous examples from classical Terran genetics, this model accounts for the infertility of the kataytikhe females as well as the presence of and varying strengths of the kataytikh traits. An hypothesis on kataytikh spermatogenesis, involving the unequal meiotic division of the primary spermatocyte into a non-functioning polar body and finally through a subsequent division into two functional spermatozoa. Finally, the implications of kataytikh/human hybrid genetics are considered.

INTRODUCTION:

In the Kraith universe, as described by Jacqueline Lichtenberg, Vulcan (tsaichrani) is controlled by a caste called the kataytikhe, the "Guardians of the Tradition". Two distinguishing characteristics give the kataytikhe primary importance in the cultural tradition of the planet; first is the ability to control the Kraith and draw a large number of minds into the telepathic linkage necessary for the "Affirmation of the Continuity"; of secondary importance is the ability of the kataytikhe to create a "culling flame" keyed to another's mind. The other distinguishing trait of the kataytikhe is that all female progeny of the kataytikhe males are sterile. Because of this, kataytikhe males must marry exogamously to maintain the ancient family lines.

In Carol Lynn's pioneering work "Genetic Analysis of the Kataytikhe"¹, it is postulated that an autosomal polygene system is responsible for these traits. She further demonstrates conclusively that a single dominant or recessive gene model does not fit the data. Ms. Lynn based her study on the condition that the kataytikh traits are not sex-linked and therefore the sterility of the kataytikhe females is due to an hormonal imbalance. More recent information indicates that these traits are in fact sex-linked. My model takes this new information for its basis and only assumes that the basic laws of Mendelian Genetics hold.

PROBLEMS OF VULCAN GENETICS:

The greatest problem for the non-Vulcan interested in Vulcan genetics is gathering information. Culturally, the Vulcans are reticent unless they deem that there is a logical necessity to reveal the desired information. In matters involving sex the Vulcans are even less communicative.² Furthermore, if any works on Vulcan humanoid genetics exist they have yet to be revealed to any non-Vulcan, and even inquiry after such information has been politely rebuffed. In truth, the only sources of information on this subject are the Kraith histories of Mrs. Lichtenberg, et al, and from private communications with Mrs. Lichtenberg and Ms. Lynn. Due to this paucity of information all studies on this subject must be speculative until the Vulcans consider it useful for us to have the information.

DISCUSSION:

If the kataytikh traits were a case of simple sex linkage, the male having a single X and a single Y chromosome, and the female having two X chromosomes and no Y chromosomes, the kataytikh gene system would have to be located on the Y chromosome. There could, therefore, be no inheritance of kataytikh traits among the female progeny of the kataytikh male,

Figure 1. Punnett square gametes represented on axes assortment possibilities represented in center

	X	X
X	XX	XX
Y	YX	YX

except through the occurrence of a cross over gene exchange between the X and Y chromosomes on the spermatogonium, the cell from which the mature sperm develops.

To overcome these problems I hypothesize that the kataytikh male is trisomic³ for the sex chromosomes; endowed with two Y chromosomes from his father and one X chromosome from his mother. In Terrans this chromosomal anomaly occurs with a frequency of approximately 1:550 males⁴. In a mating between such a trisomic male and a normal disomic (XX) female, one would obtain either a trisomic male with one X chromosome inherited from the mother and two Y chromosomes from the father, or a trisomic female with one X chromosome inherited from the mother and one X and one Y chromosome from the father.

Figure 2.

The trisomic male XYY through segregation and independent assortment yields these gametes, XY, XY, YY, YY, X, X, Y, Y

	XY	XY	YY	YY	X	X	Y	Y
X	XXY	XXY	XFY	XYY	XX	XX	XY	XY
X	XXY	XXY	XYY	XYY	XX	XX	XY	XY

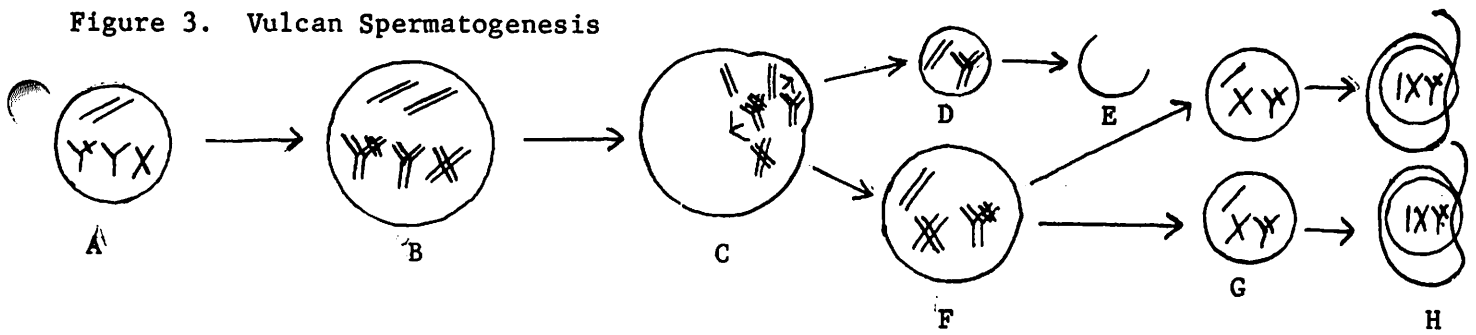
4 trisomic females
4 trisomic males
4 normal* females
4 normal* males

* Normal as to chromosome number

In humans the XXY condition is known as the Klinefelter syndrome, an individual of this type having non-functional male sex organs and an underdeveloped female body. Among Vulcans, as among certain other Terran creatures such as Drosophila, this XXY condition produces a non-functional externally female "Daughter of the Tradition".

To account for the non-occurrence of non-kataytikhe in one half of the progeny of matings between kataytikhe males and normal females (see Figure 2. again) one must consider the problem of kataytikhe spermatogenesis. (Figure 3.) When, through physiological changes the spermatogonium becomes a primary spermatocyte, it absorbs large amounts of nutrients into its cytoplasm, becoming greatly enlarged. Upon attainment of a certain, as yet undetermined, volume, a doubling of the DNA strands of each chromosome occurs and the process of meiosis is initiated. In the first meiotic division the primary spermatocyte divides unequally into a secondary spermatocyte containing an haploid set of autosomes plus two

Figure 3. Vulcan Spermatogenesis



YY & X are sex chromosomes

// represents 1. pair of autosomes

A. spermatogonium B. primary spermatocyte C. 1st meiotic division D. polar body
 E. degenerates F. secondary spermatocyte which undergoes second meiotic division
 yielding G. 2 spermatids which develop into H. 2 functional sperm

sex chromosomes and a small polar body containing an haploid set of autosomes and one sex chromosome. This polar body soon degenerates. The primary spermatocyte divides so that the majority of cytoplasm is localized in that part of the cell with the most chromosomes -- among the kataytikhe this is where the extra sex chromosome is. (Normal Vulcan males have an equal split of the cell and ultimately produce four functional sperm per original primary spermatocyte.) Then the secondary spermatocyte undergoes the second meiotic division to form two spermatids of equal size, each containing a haploid set of autosomes and two sex chromosomes. Each spermatid then develops into a functional sperm and is shunted into the seminal vesicle where it remains inactive until the climax of the crisis of pon farr. Because of the unequal division of the primary spermatocyte, resulting in functional sperm developing only from that part of the dividing cell containing the extra sex chromosome, all sperm produced, when mated with a normal egg, will produce kataytikh progeny.

The two distinguishing traits of the kataytikhe -- the mass mind linkage ability and the ability to create the "culling flame" -- may be considered as quantitative phenomena. The group meld trait used in the "Affirmation of the Continuity"⁵ may be accounted for as the normal telepathic ability of the Vulcans greatly enhanced and strengthened through the specialized training of the kataytikhe and the additive genetic effects of the extra sex chromosome. Furthermore, since there is exagamous mating with the spouses matched early in life, it can safely be assumed that the females chosen to wed the kataytikhe males will have exceptional telepathic powers. Therefore, the progeny of such mating through the action of chromosomal crossover, will have a chance of improving the genetic endowment and telepathic powers of their familial line. As for the other trait, that of creating the "culling flame" (CF), this ability is found in a limited and attenuated form in certain non-kataytikhe highly trained Vulcan technicians. Because of this occurrence it may be assumed that a polygene system, on both sex chromosomes, accounts for the ability. With the mass of the Vulcan population lacking enough of the proper gene complement to display this ability. There are qualitative differences between the "culling flames" of the kataytikhe and the non-kataytikhe though, the kataytikhe being able to produce a much finer, more closely tuned flame than the non-kataytikhe. Furthermore, since all kataytikhe display this ability, one may assume that it is inherited like the other trait through the diploid sex chromosome of the male sperm; and since female kataytikhe display as great a power as male kataytikhe in this ability one can also assume that the prospective mates of kataytikhe display this ability as well in their qualifying genetic endowment.

Since all kataytikhe display this trait one can assume that its incorporation or genesis on the sex chromosome occurred at virtually the same time as the original premature duplication and non-disjunction of the Y chromosome which resulted in the first kataytikhe.

If this trait had occurred in a female of the time it would have been thought advantageous for the kataytikh male to marry such a superior female and therefore the trait would have been strengthened in the subsequent progeny. Perhaps this polygene system caused the first duplication-nondisjunction in the occurrence of its full non-kataytikh strength. (e.g. if it was a 10 recessive gene system in its full strength, with anyone with 5 or more recessive genes displaying an attenuated ability, the full recessive complement perhaps spontaneously causes premature duplication and nondisjunction yielding kataytikh sperm.)

Not all kataytikhe demonstrate the same competence or power in the control of these distinctive abilities. These differences may be explained by the subtle actions of different genetic modifiers on the total Vulcan genome as well as differences in the training of the child and in the environment of the developing kataytikh. That these modifiers do exist can be inferred from the case of the kataytikh-human hybrid, Spock of the line of xtmprsqzntwlf, who displayed such skill at his first Affirmation that he received state's honors, but who also said of himself, "... I am a throwback, I'm not very sensitive and my control is erratic, but I have compensating advantages."⁶ He has both kataytikh Y chromosomes unmodified by any action of the Vulcan X chromosome which here appears to have effects upon the control of the kataytikhe powers. The other known kataytikh-human hybrid is T'zorel⁷, a "Daughter of the Tradition", who is remarkable in that she displays emotion at times and, more amazingly, is fully female. This shows that the combination of the human and Vulcan X chromosomes can negate the desexing effects of the kataytikh Y chromosome, unlike the human Klinefelter. One can only speculate what the progeny of a mating between these two hybrids would produce. A human child? A four sex-chromosome kataytikh? Or what?

Of course, all this is just speculation and when the Vulcans deem it logical to tell us, it will probably prove, if not actually false, then at least oversimplified. Nonetheless, the field of kataytikhe genetics is an useful and enjoyable adjunct to theoretical genetics.

FOOTNOTES:

1. "Genetic Analysis of the Kataytikhe" by Carol Lynn, Babel II
2. see "Amok Time"
3. Triploid -- having one more chromosome than the normal number. In this paper, I will consider the sex chromosome, either XX (female) or XY (male), to be the normal disomic pair. See Strickberger, page 471.
4. "Report of XYY Chromosome Abnormality", U.S. Government Printing Office
5. see "Spock's Affirmation" by Jacqueline Lichtenberg, Kraith Collected volume one
6. see "Spock's Mission" by Jacqueline Lichtenberg, Kraith Collected volume one
7. see "T'Zorel" by Jacqueline Lichtenberg, Kraith Collected volume one

BEADS AND RATTLES

by Jacqueline Lichtenberg

I have long been deeply puzzled over Spock's derogatory attitude toward the obviously refined and potent medical practices of McCoy's sickbay. I have recently stumbled onto an explanation which I have decided to incorporate into the Kraith Series. This in no way changes any of the established verities of the series, but it is a guideline that opens a whole new frontier for our exploration.

The basis for the Vulcan Medical practices can be discovered by exploring the theory of telepathy a little deeper than it has hitherto been probed. The SF literature is replete with theories of how telepathy works, and many of those theories are remarkably close (not necessarily by accident) to some very good scientific data that has recently been published.

The book in question is: Psychic Discoveries Behind the Iron Curtain by Sheila Ostrander and Lynn Schroeder from Bantam at \$1.25 (Q6581). I have not, as yet, obtained what I consider incontrovertible proof that any of the data revealed in that book is reliable. However, reliable or not, it does yield a wealth of story material that cannot be ignored.

One of the basic ideas which I would like to add to the Kraith Series is that all living things create in and around themselves a kind of bio-electric field which can be measured with modern electronic equipment. (This is fact.) Fictionally, from there we leap into the unknown. We shall assume that not only is it possible to heal the illnesses of the bio-electric field by orthodox medical practices, but it is also possible to heal the illnesses of the body by healing the bio-electric field.

The humans of the UFP (and most other races presumably) have stuck to the methods of healing the body. The Vulcans abandoned that tack a long time ago, and concentrate their healing efforts on the bio-electric field. The methods the Vulcans use appear to others as "faith healing; and "quackery" do to us. The methods of "orthodox" medicine appear to the Vulcans as the "beads and rattles" of a "medicine man."

The reality of this bio-electric field in the UFP universe can be "established" by observing that Spock often uses his hands to "focus" telepathic effects at a distance. It has been shown in the above book that the human skin emits a great deal of energy (which can be photographed), and that the bio-electric field registers the effects of thought-at-a-distance. When somebody is thinking about you, there is a measurable change in your physiological state whether or not your conscious mind discerns it.

Since the shape of the bio-electric field of an amputee's limb is clearly visible via this special photography, there has been some hope that research might turn up a way to regenerate amputated limbs. It is possible that Ruth Berman's story, "Coup de Partie", may be outside the Kraith universe in this--as reliable regeneration might be a possibility for Vulcan medicine.

There are other phenomena connected to this ESP-medicine. Precognition fits neatly into the picture, leaving my Schillians looking like a rather brilliant piece of construction. The bio-electric field has been used to predict the development of cancer and other diseases.

Dowsing and many "magical" practices which look like voodoo also fall into the picture.

The scope of this matrix of discoveries is limited only by the imagination. Starting with the "fact" reported in the above book, that ozone has a remedial effect on the bio-electric field, which in turn can affect the body, I wrote a short post-script to Devra Langsam's story "A Little More Than Kin, But Less Than Kind", which appeared in Eridani Triad III. My story, "T'Misoara Marenjas: The Logic of Compromise", proposes a Vulcan medical treatment of attempted suicide. Although that story is based in Devra's universe (distinct differences in characterizations are prominent), the basic idea pertains to Kraith and will hold in Kraith. Vulcan medicine treats the bio-electric field, not the body.

Using this theory, it is possible to explain how, as the article "In Defense of T'Yuzeti" asserts, Amanda could have carried a green-blooded fetus to term. Although no known medical practices, even projected 200 years from now, could stretch to cover such an impossibility, a breakthrough on this bio-electric field phenomenon might well provide tools which would make that feat into child's play (no pun intended).

Star Trek, then, begins to perform one of the most common sf services. By depicting the Earth humans as clinging dogmatically to treating the body, while the Vulcans demonstrate that near miracles can be performed using a different theory of reality, Kraith-ST explores some of the consequences of a major choice which RIGHT NOW confronts us all--because orthodox science is four-square against anything smacking of legitimized ESP miracles. Many scientific organizations have refused to listen to papers on this subject, or to publish discussions and research results. They are afraid. Are we?

There is, no doubt, a great deal more to be said on this subject. I have many half-baked theories in mind to "explain" exactly how Vulcan medicine achieves its effects. Kraith Creators are invited to explore this entire exciting field with us.

ZYETO:

As Ssarsun has said, Zyeto is the hobby of most of the Vulcans. A full set of Zyeto draws upon each of the ancient Sources once. The original texts now reside in the Treasurehouse of the Ancients of Days, Library of Legions, Vulcan Planetary Capitol. Most of the quotes in this 'zine are translated from the Vulcanir by Jacqueline Lichtenberg. Quotations marked with an asterisk were translated by Carol Lynn and Debbie Goldstein.

The Sources are:

- The Book of Logic
- The Book of Life
- The Book of Books
- The Book of Imperatives
- The Book of Fragments
- The Book of Joys
- The Affirmation of the Continuity
- Surak's Construct

The last two Sources are customarily quoted from one or two lines only. The quote from The Affirmation has been questioned as being ambiguous. The quote, "The Katay-tikh lifts the Kraith that the future may drink of the past," may be taken to refer to ecology, for water purified by the gigantic distillery of a whole world has been recycled many times and thus is a symbol of the past continuing, and now, upon consumption, being used to nourish and sustain the future. To a Vulcan, the act of drinking may be taken to symbolize the participation in reality.

VULCANUR SEMEMICS

by Jacqueline Lichtenberg

INTRODUCTION: When the peoples of the planet known in the Federation as "Vulcan" chose to emphasize logic as the primary motivation, they found it necessary to forge a tool of communication equal to the task. They deemed it insufficient to merely delete all emotion-words, for this would have left a void in the language. They would be unable to argue logically about emotion-concepts. Therefore, they re-evaluated the function of language in society and synthesized a new type of tool to replace it.

The fact that the "languages of Vulcan" are not true languages is the main reason humans have been unable to learn to speak, read, or write Vulcan. The native Vulcan's keen hearing and perfect memory are really secondary stumbling blocks. There are any number of mechanical aids which could be adapted to serve the human who wished to hear or produce the minutely differing Vulcan phonemes and any computer can handle the inventory of written characters without trouble. But a human mind which insists on a fixed grammatical structure and incessantly seeks to classify words and sentence structures with labels such as "agglutinative" or "isolating" and refuses to mix the two can never master any of the Vulcan languages.

One of the major sources of confusion among human scholars of the Vulcan languages is that they rarely admit that they must deal with three different language instead of three forms of the same language. In truth, Middle and Low Vulcan are forms of High Vulcan, but the human mind cannot learn them in that context.

It is possible for a human to master Low Vulcan if he approaches it as an independent language composed of two independent parts, verbal and graphical. Once the student realizes that a transcribed sentence is a totally different kind of thing than a graphical sentence of identical content, the way to learning is open. The difference is akin to the difference between the verbal statement of an algebraic problem and an algebraic statement of the same problem. The graphical Vulcan sentence is one level of abstraction removed from the verbalized or transcribed sentence. This is true of Middle and High Vulcan as well as Low Vulcan. So, in effect, the Vulcan has six means of communication with his fellows available at all times. They are, in ascending level of abstraction and increasing precision of expression, Low Vulcan Verbal (or transcription), Low Vulcan Graphics, Middle Vulcan Verbal (or transcription), Middle Vulcan Graphics, High Vulcan Verbal (or transcription), High Vulcan Graphics.

This last, High Vulcan Graphics, is a more ultra-precise mode of expression than the most elaborate mathematics of the theoretician for it never has to resort to ordinary language for exposition or definition. While the spoken form of High Vulcan can, with difficulty, be analyzed into manageable grammatical forms, the written language is under no such linear constraints and can be tailored to the argument at hand.

Reading High Vulcan is very like reading a complex circuit diagram. The more involved an argument becomes, the larger the individual diagrams have to be. When they become too large, a map-like projection of the total argument is cut into segments and followed by close views of each segment. The resulting composition is apt to resemble a road

atlas and the reading process is similiar to plotting all possible routes from all points to all points.

Needless to say, the Vulcan eidetic memory and powers of visualization are what make such a tool useable in spite of its enormous symbol-inventory.

If the atlas approach is insufficient to deal with a problem, two dimensional expression is abandoned for three dimensions. The result resembles abstract sulpture and can be quite beautiful in itself.

Beyond the sculpture technique is the most powerful tool employed by High Vulcan Graphics, tokiel. Federation linguistics long supposed tokiel to be merely an ancient folk-dance art form akin to the story telling dances of many primitive peoples. The true subtlety of its use of four dimensions (three spacial and one time) and twenty-two color parameters as well as fifteen pure tone parameters was realized only after a native Vulcan found it logically necessary to explain the art to an offworlder.

What would take ten hours to read from a two or three dimensional presentation can be assimilated from a skillful tokiel artist in about an hour.

In conclusion, let us note that the serious student of the Vulcan languages must realize that for all its logic and order and in spite of all the elaborate rules for constructing words, phrases, sentences, as well as less easily defined grammatical units, the language retains many words, phrases, names and conventions from the ancient languages of the planet. The philosophy of the Vulcans is such that regional dialects are retained and the observance of local customs encouraged to the point where the only ones who believe in the homogenity of Vulcan world culture are the offworlders.

PART I: The tripartate Vulcan language is constructed to facilitate logical, unambiguous communication.

This does not mean that there are no generic words but merely that generic words which are vague in human language are precisely defined in the Vulcan languages.

For example: All human languages have words such as "tree" which stand for all erect, leafy (or needled) woody vegetation. In addition, they all have words such as "evergreen" and "deciduous", etc., that divide all "trees" into several categories. Further, they have words such as "oak", "maple", "walnut", "apple", etc. which stand for specific varieties of "tree". Then there are words which apply across categories to specify the size or age of the "tree"; "seed", "sapling", etc..

The Vulcan languages also have the categorical equivalent of the word "tree", but such parameters as square-footage of leafy surface exposed, total size, total amount of fluid processed, etc., are specified precisely. Thus, to a Vulcan, there is no possibility of confusing a bush with a tree. Further subdivisions of the category "tree" are made with systematically increasing precision of definition so that there can be no doubt in classifying any particular growth... even if it proves necessary to use a standard measuring device.

All human languages have the generic trem "art" which covers a wide variety of activities. The prime similarity between these activities is that human hands fashion nature's raw materials to serve human needs. Thus, carpenters were considered artisans, and potters were both artists and artisans. In later times, the term, artist, came to be applied specifically to those individuals who created beauty from raw materials ranging from pure sounds to paint pigments.

Such evolution of terminology is found in the pre-Reform Vulcan languages and some of the conceptual bases of these terms survived the Reforms. One point of confusion in human scholar's work on the modern Vulcan languages, Vulcanur, Vulcanar, Vulcanir, (Low, Middle and High Vulcan), is a lack of understanding of the Vulcan concept of "art". This confusion arises from human scholars who claim that the Vulcanur term for "art" contains an inherent ambiguity in that it refers not only to those who create "beauty" (poets, musicians, dancers, painters, etc.) but also to those who merely create (the generic term "artisan") as well as to those who are primarily engaged in the applied sciences and a profession peculiar to Vulcan, applied philosophy. 1.

Thus, many human scholars hold that the Vulcanur term for "art", t'seluret, is so broad and illdefined that it in truth has no meaning or is hopelessly ambiguous.

Let us examine the word t'seluret for a more specific definition, and then try to discover the common element referred to in these diverse occupations.

To do a sememic analysis on a Vulcanur word, it is necessary to understand the formation of such words. The Vulcan languages are composed of a plethora of minutely differing phonemes each of which is related to a specific concept. For example, every occurrence of the phoneme, /t'-/ or /-t'-/, refers to some aspect of creativity. The /:T'-/ prefix to all feminine names is related to one aspect of creativity roughly glossed as "completion". But the feminine prefix, /:T'-/, is phonemically distinct from the prefix /T'-/ which refers to a particular type of creative logic and is used on such words as T'Kiamuth. However, the human ear/brain combination is unable to detect the distinction between the two prefixes as it is a matter of minutely differing degrees of aspiration. 6.

The main, and most important difference between Vulcanur and the Middle and High versions, Vulcanar and Vulcanir, is that the number of minutely differing phonemes increases with the increasing precision of the language. Vulcanar demands approximately 2/3 more phonemes than Vulcanur. Vulcanir demands fully twice as many phonemes as Vulcanur. Finer precision is possible in Vulcanir, but greater care must be taken with enunciation. Vulcanir requires an effort on the part of both speaker and listener which is not always justified by the content of the utterance. For this reason, Vulcanur is the most widely used daily language.

However, even the relatively "stripped" Vulcanur presents many problems to the human scholar. The phonemic differentiations are often too fine to hear and the corresponding semantic differentiations are often impossible to comprehend. Thus, it has become common practice such minutely differing sememes (phonemic-semantic units) into larger units which are distinguishable and retain as much semantic content as is comprehensible to the human mind.

It is this policy of assimilation which has led to the charge of "ambiguity" against the Vulcanur term t'seluret. Let us analyse the meaning of this word.

/:t'-/	creation
/-sel-/	beauty
/-u-/	from
/-r-/	passive sign
/-e-/	generic sign
/-t:/	creation

The colons indicate forms found only at the beginning or end of a word.

"Art" is the creation of beauty from that which has been created. Or an activity of an extremely general nature which is bounded on both sides by beauty.

Notice that /-sel-/, beauty, also contains an /-e-/. This /-e-/ is phonemically

distinct from the generic sign and yet has the property of specifying a "general" beauty. This /-sel-/ refers not just to feminine beauty, not just to the harmony of sounds or colors, not just to a pleasingly formed object, but to all of these and many more.

But, the sememe, /-e-/, in /-sel-/ causes /-sel-/ to refer not merely to that which pleases the eye or the intellect, but also to the Vulcan concept of "true beauty" which may be extremely displeasing and nonetheless beautiful. Such beauty is usually found beyond the realm of the physical senses.

Our brains interpret the signals of our physical senses to present us with an operational view of reality. This we call subjective reality. Objective reality may be quite different. If our brains are presented with a radically new subjective on reality, insanity may result... even though that view may be closer to objective reality. To a Vulcan, that which is closer to objective reality and yet remains functional is of a higher order of beauty.

Thus, even in the relatively imprecise Vulcanur, there can be no argument over whether a Medusan is "ugly" or "beautiful". He is both functional and closer to objective reality in that he has a directional/positional sense which humanoids do not possess. His appearance and viewpoint may displease the brain so severely that it ceases to function rationally, but the Medusan possesses the property /-sel-/.

To humans, beauty is an abstract concept; to Vulcans it is a large, but very clearly defined concept. The domains of definition of the human and Vulcan concepts overlap, but they do not coincide completely. The most comprehensible idea in the Vulcan concept of beauty is that of harmony with the operational modes of the universe.

A Vulcan considers the creation of beauty to be any activity which increases understanding of the operational modes of the universe, or which actively brings society or individuals into closer harmony with the universal modes.

The human concept of beauty is anything which creates a soothing emotional reaction in a relatively large number of individuals. A Vulcan can recognize beauty in a human painting which has qualities of line, color and composition that depict some actual harmony present in the universe. He can appreciate a painting that expresses something of fundamental importance to a society, i.e. a religious theme⁷, but he will not be referring to the soothing feeling that viewing such a painting would give to a human when he calls it beautiful.

A Vulcan would find the same beauty in an equation that represented the time-rate-of-change in the position of an electron during a chemical reaction. He would perceive the same beauty in a report of a newly determined fifteenth digit of the vibrational fine-structure constant of a ditonium nucleus in a de-gravitized matter/anti-matter plasma.

Not all Vulcans have the intellectual capacity to perceive the beauty of a fine-structure constants, but not all humans delight in the Vatican Frescoes.

To a Vulcan, the person who paints a picture that pleases the eye and the person who adds one digit to a fine-structure constant are pursuing the same goal... t'seluret⁸. Both individuals are entitled to the appellation t'selurit, "artist".

Analysis of the word tokiel may elucidate this concept.²

/:t-/	creation	/-i-/	specific sign
/-o-/	tradition	/-e-/	generic
/-k-/	blending-combining	/-l:/	harmony

The artform called tokiel is indisputably a creation of beauty which a human can enjoy without being aware of the more subtle nuances. The creator of tokiel is certainly an artist. But to a Vulcan, the tokiel artist does not merely create a moving light show with musical accompaniment, he creates tradition by blending both the specific and the generic in harmony. Every color, tone and shape has sememic content. Tokiel is a language.

Here the /-l:/ is the end-form of the same sememe that makes up the unit /-sel-/ in t'seluret.

The word idic (better spelled idik) can be used to illustrate the Vulcanur rules of word-formation. Idic has been borrowed into all the human languages to represent the revered Vulcan symbol and it has been assigned the mnemonic acrostic, Infinite Diversity in Infinite Combinations. The actual analysis of the Vulcanur word idik is:

- /:i-/ privacy, specific sign
- /-d-/ logic [t' modified]
- /-i-/ specific sign, modified by combination with preceding d
- /-k:/ blending, philosophy of Nome

So the word, idik, embodies all of Vulcan philosophy, as does the symbol for which the word stands. The /-d-/ followed and modified by the specificity sign denotes reverence for life as the /-d-/ is a modified form of the sememe /-t-/ which is /creation/ and /completion/ as well as several related concepts.

One thing that puzzles many scholars is why the words tokiel and idik possess neither the masculine /:S-/ nor the sememe for communication, /-p-/.

The masculine proper name prefix, /:S-/, is related to the prime sememe /-s-/, which also appears in the unit /-sel-/, meaning beauty. Why does this not appear in tokiel and idik? Let us examine the masculine name, Spock.

- /:S-/ initiator-starter
- /-p-/ communication
- /-o-/ tradition
- /-ck:/ modified blending

Spock is a male who communicates a blended tradition. The name also carries the connotation of a founder-of-dynasties.

The masculine prefix, /:S-/, represents the concept of instigator, the driving force, or a source of that which did not exist before. In the unit /-sel-/ the /-s-/ can be taken to represent the concept of beginning so that beauty is composed of beginning-of-a-generic-harmony.

But now we note that "a source which did not exist before" is a creator. There is an overlapping of the domains of definition of /-s-/ and /-t-/. They are not merely opposites: they are complimentary. This is reflected in the close relationship of the articulation of the two. /-s-/ is an alveolar fricative while /-t-/ is an alveolar stop.

Since they are so closely related they are not both needed in the word tokiel. But what about the word idik? As we found the /-d-/ was a modified /-t-/, thus no /-s-/ is required.

Then we might expect that both /-s-/ and /-t-/ would never appear in the same word. But this is not the case.

We have the word, stpoek, which in Vulcanur means mother and father together and

is usually glossed "parents". But in Vulcanir, it means all blood-related ancestors and the degree of removal, i.e. parents, grandparents, greatgrandparents, etc., is indicated by shift in the vowel /-e-/³.

/:S-/ initiator
/-t-/ completer
/-p-/ communicator
/-o-/ tradition
/-e-/ generic
/-k:/ combined

One's ancestors are those who have initiated and completed the communication of tradition and combined it in you. Here the concept of tradition is very broad, including not only social constructs but also the summed tradition of life's experience written in the genes.

We can see that the free creation of Vulcanur words from component sememes must be left to the Vulcans. The human student of Vulcanur can never hope to understand the full spectrum of subtlety in the rules for concept mixing.

The gradations between phonemes that relate to gradations between concepts may be likened to the gradations between notes of the chromatic scale: the existence of a relation is patently obvious to anyone who can hear, but the creation of musical compositions is a business for highly trained, talented experts.

Likewise, the interpretation of Vulcanur words must be left to the Vulcans. The human scholar should confine himself to the attitude that most Vulcan words are arbitrary units which combine to make phrases and sentences of a familiar structure. In the few cases where a word undergoes obvious internal shifts with shifted meanings, one can regard the shifting phonemes as infixes, prefixes, or suffixes. In most instances, the language can be considered isolating as long as the sentence unit is of the type found predominantly in Vulcanur.

Needless to say, there are numerous conventions and some fairly arbitrary rules in the construction of Vulcanur words. Vulcan youth perennially discover this and exploit it by choosing a different set of conventions, generating a sub-language for private communication among themselves very much the way humans use pig-latin. But, apparently, these sub-languages wither away as maturity enlarges the required vocabulary and the youth discovers that the standard rules are superior in flexibility and practicality.

There are varying degrees of competence in Vulcanar and Vulcanir among Vulcans. Fully 30% of the population can barely manage to speak Vulcanar for legal testimony and they regard Vulcanir as something they were once exposed to in an esoteric high school course. Although everyone understands Vulcanir well enough to comprehend newscasts and read news-reports, there is a growing tendency to employ Vulcanar for such purposes whenever possible.

He who masters Vulcanur can communicate with any Vulcan. But we must never forget that modern Vulcan is a living, evolving language and the borders between the three parts of the language are constantly being re-defined.

FOOTNOTES:

1. Applied philosophy holds the position that theology does in most human societies.
2. For a definition of tokiel see also Kraith I, "Spock's Affirmation".
3. In early episodes Spock referred to "... the fact that one of my ancestors is human...". This peculiar use of the word ancestor to refer to a living mother might be due to the

semantic hangover into his English of an essentially Vulcan concept. Then again, it might have been due to both.

4. Remember in "Patterns of Force" Spock estimated distance by eye well enough to make a crude laser, the first try. That's some eye estimate!

5. Strictly speaking, there are no Vulcan synonyms. But Vulcans make a verbal art (t'seluret) of concocting new words to represent a given concept from slightly different component sememes, altering the emphasis in some slight but significant way. This is another important source of confusion that has led humans to believe that they've found actual ambiguity.

6. The matter of dialect will have to be discussed as a separate topic.

7. In "Requiem for Methusalah" Spock was close to "envy" over the art treasures he found there.

8. In Vulcanur, "understand" and "express" are concepts which overlap so completely as to be virtually identical. (see "Spock's Affirmation")

PART II: Here I will attempt to construct concept assignments to gloss Vulcanur sememes into English.

Any discussion of Vulcan sememics would not be complete without touching on the word "Vulcan" itself. Historically, the planet was named by a human Starship Captain who first set foot on Vulcan and noted the dry heat, volcanic activity, prodigious gravity, and low oxygen content of the air... which reminded him of conditions inside an ancient forge and thus of the mythical armorer of the gods. The association with violence is unfortunate in view of the nature of Vulcan culture (tsaichrani), but since that was not immediately understood, the misnomer was swiftly adopted by the Federation.

Although all modern catalogues list the planet as Tsaichrani, the word Vulcan is always added in parentheses. The word has come to apply not only to the planet, people and culture, but also to their language. Usage is so widespread that it has penetrated the Vulcan language itself. "Vulcan" is the accepted Vulcanur term for their planet and species as well as, occasionally, even for their culture.

However, "Vulcan" is never used in Vulcanar or Vulcanir. In adopting the word, Vulcan, the cannons of Vulcanur forced certain changes which can be noted by examining the glossary presented below. The main difference is the added syllable, the generic /-e-/ between the /-l-/ and the /-k-/. Thus "Voolekan", an extra-cannonical collection of sememes is purported to have the meaning: A clearly defined group of people who consent to a custom that promotes a general harmony by blending the ancient and the modern. (The student should compare this with the analysis of tsaichrani.)

Advocates of this borrowed word claim that the denotation is precise enough to allow it to be admitted to the language.

One source of resistance to the borrowing is the popularity of the strictly extra-cannonical derivations, Vulcanur, Vulcanar and Vulcanir for the Low, Middle and High Vulcan languages respectively. The endings /-ur:/, /-ar:/, and /-ir:/ should be /-pur:/, /-par:/, and /-pir:/ respectively but the forms have been borrowed unaltered, on the grounds that the three ending can be taken as borrowed from a large family of pre-Reform languages, which is inadequately represented in the modern Vulcan languages.

Needless to say, the controversy over the borrowing of the word, Vulcan, and its derivatives has split the Vulcan population along ethnic lines. Strange as it may seem, Vulcan applied philosophers do not consider this improper but welcome it with that peculiar Vulcan zest which defies translation.

Given the component sememes of a word, the human scholar could not hope to derive the concrete meaning, but given the meaning and the components, the human scholar can gain some insight into the workings of the Vulcan mind. Such insight is important because of the difficulty the Universal Translators have with rendering Vulcanir into English or the other human languages.

One elegant tool for elucidating the sememic structure of Vulcan words is the three-dimensional graph of the basic articulation parameters that carry conceptual significance. A phoneme which falls on the surface which defines the articulations allowed by the phonetic canons of Vulcanur has a glossing related to that of other phonemes that share one or more of its values.

Obviously, there are other articulation parameters and they, too, carry some meaning, though not always in Vulcanur. Vulcanar and Vulcanir require larger, more complex surfaces of definition. And there are differences between Vulcan dialects in defining the surface of definition. These differences are more pronounced for Vulcanur than for Vulcanir.

Two other words have been borrowed into Vulcanur, kevas and trillium; two of the most important agricultural exports of Vulcan. The Rigilians claim the credit for contributing these two terms to replace the virtually unpronounceable Vulcan names, so we shan't go into the derivation here. Suffice it to say that the Rigillians provided the words which the Vulcans altered to fit the phonetic canons of Vulcanur.

GLOSSARY OF VULCANUR TERMS:

AHN WOON (alternate spelling -- An Woon): Oldest of Vulcan weapons; a leather band with handles at the ends, about six feet long, it can be used as a bolo, a sling, or a garrote.

/:a-/	geographical area
/-h-/	immediate
/-N:/	ancient
/-W-/	negation
/-oo-/	custom
/-n:/	immutable

Sememically, the Ahn Woon is an instrument in whose presence no custom is immutable. It is a weapon used to change the customary direction of a ceremony. "Ahn" is a word often used to say, "now as it has been since the beginning of time".

IDIK (English -- IDIC): A symbol composed of a circle and a triangle and standing for the idea that the greatest joy in all creation is in the infinite ways that infinitely diverse things combine to create meaning and beauty.

/:i-/	privacy
/-d-/	logic
/-i-/	specific sign
/-k:/	blending

KAH-IF-FARR (alternate spelling, Kari far; suggested spelling Kahree farr): Signifies the beginning of a ceremony. It is generally glossed as "begin the ritual action" from a "literal" meaning of "fulfill the point-in-the-cycle".

/:K-/	logical inclusion
/-ah-/	here, now
/-r-/	command
/-ee-/	pattern

For /farr/ see PON FARR, below. Kahree farr means "add the fever to the pattern".

KIRTON TSU': A particular type of Vulcan restaurant at which a ritual meal is served according to a blending of ancient and modern custom.

/:K-/	blend	/:ts-/	society
/-i-/	specific	/-oo-/	custom
/-r-/	passive	/-'-/	one aspect of contemplation
/-t-/	creativity		
/-o-/	tradition		
/-n:/	ancient		

Thus, Kirton Tsu' is a creative blend of ancient tradition and the customs of modern society in public contemplation.

KOMATT: A heraldic medallion dating from the first recorded usage of a particular name. In modern society, used only by the Daughters of the Tradition as a badge of office. That of T'Pau is perhaps the most famous.

/:K-/	authority
/-oo-/	tradition
/-m-/	thought
/-ai-/	specific
/-tt:/	symbol

A Komatt is the authority of tradition made tangible in a symbol.

KOON-UT-KALI-FI (recommened spelling, koon-ut-kalee-fee): This word is generally translated as "marriage or challenge". A closer rendering would be "marriage act of challenge" since the act of marriage is identical with the act of challenge. The segment "koon-ut-" may be regarded as carrying the concept of marriage. It is a general term which refers not only to sexual union but to any union, such as the mingling of wines or a merger of two corporations. It denotes a joining that can never be surrendered from the moment it is completed provided the full consent of both (or more) parties was obtained at the moment of completion. Sememically:

/:K-/	blend	/-u-/	from
/-oo-/	custom	/-t-/	completion
/-n-/	immutable		

The segment, "kalee", belongs to both the "koon-ut-" and to "fee" and denotes the "act of" portion of the meaning.

/-k-/	add
/-ah-/	here
/-l-/	harmony
/-ee:/	pattern

An "act" of a type which adds harmony to the pattern. The final segment "fee" denotes "challenge", or control of the pattern:

/:F-/	control
/-ee:/	pattern

KRAITH: This word is reserved exclusively to refer to the vessel used in the Ceremony of the Affirmation. The final /-th-/ might better be rendered /-t-/ as it is a strongly aspirated alveolar-dental unvoiced stop that is so close to that it is easily confused with it.

/:K-/	inclusion
/-r-/	passive
/-e-/	generic
/-ee-/	pattern
/-th:/	change

This may be read, "The means whereby change is included in the pattern". The concepts of evolution, cycle, and re-definition are given second-order emphasis in this word. The Vulcan concept of a viable Continuity is one which undergoes orderly, cyclic evolution.

KROYKAH: This is the most emphatic "cease and desist" command of the Vulcan language

and can even penetrate the frenzy at the peak of plak tow. It is used sparingly, ceremoniously and only by constituted authority.

/:K-/	inclusion	/-y-/	express
/-r-/	passive	/-k-/	blend
/-O-/	tradition	/-ah:/	here

where the /-y-/ is an allophone of /-l-/, meaning harmony, but here assigned the related concept /express/. Thus, Kroykah means, "By the authority invested in me by tradition, I compell peace here".

KLIKTYEU: A dish served in Kirton Tsu'.

LIRPA: A traditional Vulcan weapon, a four foot shaft with a knife-edged blade on one end and a weight on the other.

/:l-/	harmony
/-ee-/	pattern
/-r-/	command
/-p-/	communicate
/-ah:/	here

Harmonizing the pattern by force.

LASH D'ORO V'SUKA: Generally glossed as "Live Long and Prosper", this phrase is used as a courtesy with the Greeting of Surak in order not to indicate acceptance of the obligations of Surak's Construct. Occasionally, "Pastak V'doro Lashe", "Peace and long life", is used in the same way. The phrase, "Pastaklan Vesla", "Peaceful thoughts" is also gaining some usage. The origin of these three phrases is unknown and no sememic analysis will be attempted here because no phonetically accurate recordings of a native speaker of Vulcanur using these phrases is available.

MPARR: This is a term that usually refers to a certain type of telepathic mind-invasion. It is one of the few Vulcanur words which might be classed as an invective.

/:m-/	thought
/-p-/	telepathically
/-ah-/	here
/-rr:/	empassivated

NATHU: Relative. This word, curiously enough, also occurs in several Romulan dialects where it is glossed "citizen".

/:N-/	time
/-ah-/	now
/-th-/	derivation
/-oo:/	custom

NI VAR (suggested spelling, Nee Vahr): A t'seluret form in which two (or more) subjects are contrasted and compared. It may take the form of a poem, song, drawing, etc..

/:N-/	time
/-ee-/	pattern
/-v-/	logical exclusion
/-ah-/	now
/-r:/	passive

Some things group to form a pattern: things which are excluded from the pattern.

NOME: meaning ALL. This word must be carefully distinguished from similar words which are quite different in meaning. Thus when speaking Vulcanur, the word is generally qualified by the universal quantifier or a thoroughly unambiguous phrase, such as specifying the Philosophy of Nome, or Nome-Idik. When speaking English, the phrase, meaning ALL, is generally added. The Philosophy of Nome consists mainly of the idea that an infinite number of things combine to make existence worthwhile.

/:N-/ time
 /-o-/ tradition
 /-w-/ conflict
 /-m-/ thought
 /-e:/ generic

That both tradition and (as a de-emphasized off-glide) conflict, must be considered throughout all time.

PLAK TOW: Generally glossed as "frenzy" and given the "literal" meaning "blood fever". The term is reserved to refer to the total loss of control at the culmination of pon farr. In general, Vulcanur does not employ euphamisms, but the terminology surrounding the pon farr is an exception.

/:p-/ communication
 /-l-/ harmony
 /-ah-/ here
 /-k:/ blending

This is one of several terms for "blood" describing one of its major functions.

/:t-/ creating
 /-ah-/ here
 /-o-/ tradition
 /-oo-/ custom
 /-w:/ negation

A "fever" being the creation of a tradition/custom negation, i.e. an abnormal condition.

PON FARR: A cyclical physiologic imbalance which is the basis of the Vulcan mating drives.

/:p-/	communication	/:F-/	control
/-o-/	tradition	/-ah-/	here
/-n:/	ancient	/-rr:/	empassivated

Thus, euphamistically, pon farr is a message from the racial past that subjugates control now. It is related to terminology describing the breathing reflex. Note that /-rr:/ and /-n:/ share articulation position. This is a type of sememic interrelationship which Vulcans consider poetic.

PORTUNAKREAS: A species of tree which consists of a subsurface root nodule and seasonal surface foliage. A portunakreas forest resembles a Terran badlands or desert, while to Vulcan eyes it is a lush timberland, ripe for harvesting when dormant and most desert-like. Portunakreas is the technical name for the genus.

SEHLAT: A Vulcan child's pet. Mammalian; with six inch fangs.

STPOEK: The Vulcan term for parents, plural.

TAL SAYA: Usually glossed as "merciful execution", it is a method of breaking the neck of a vertebrate.

/:T-/	completion-execution	/:S-/	masculine prefix
/-ah-/	here	/-ah-/	here
/-L:/	ending	/-y-/-/ah:/	understanding, mercy, empathy

T'KIAMUT'H: The philosophy that holds that all relationships can be expressed by four parameters, as the simplest algebras can be constructed on four postulates.

/:T-/ creative logic
 /-k-/ blend
 /-ee-/ pattern
 /-ah-/ here
 /-m-/ thought
 /-oo-/ custom
 /-t'h:/ reality

The final three sememes form a composit, conventional abbreviation for the concept of actual reality as opposed to subjective reality. Actual reality being an ideal that can never be dealt with in other than the abstract. Thus, T'kiamut'h is a creative logic that blends abstract thought (subjective reality) and objective reality into a pattern.

TOKIEL: A Vulcan folk art based on T'kiamut'h.

T'SELURET: Generic term for art.

T'SELURIT: An Artist .

TSAICHRANI: The Vulcan term for modern Vulcan society.

/:ts-/	society
/-ah-/	now
/-i-/	specific
/-k-/	regulate
/-r-/	command
/-ah-/	now
/-n-/	nature
/-ee:/	pattern

A society regulated by that which commands nature's pattern. In translation, it seems to border on a theological concept, though this implication is emphatically denied by native speakers.

YHOTEKHQ: A Vulcan confection made from the by-product of the metabolism of an insect. It is fattening.

VULCAN PROPER NAMES:

MASCULINE--	Saptiir*, Satak, Sarek, Sauk*, Sikar, Spock, Stonn, Surak
FEMININE --	T'Aniyeh*, T'Pau, T'Pring, T'Uriamne*, T'Yuzeti*, T'Vret*, T'Zorel*

* -- names coined by Jacqueline Lichtenberg.

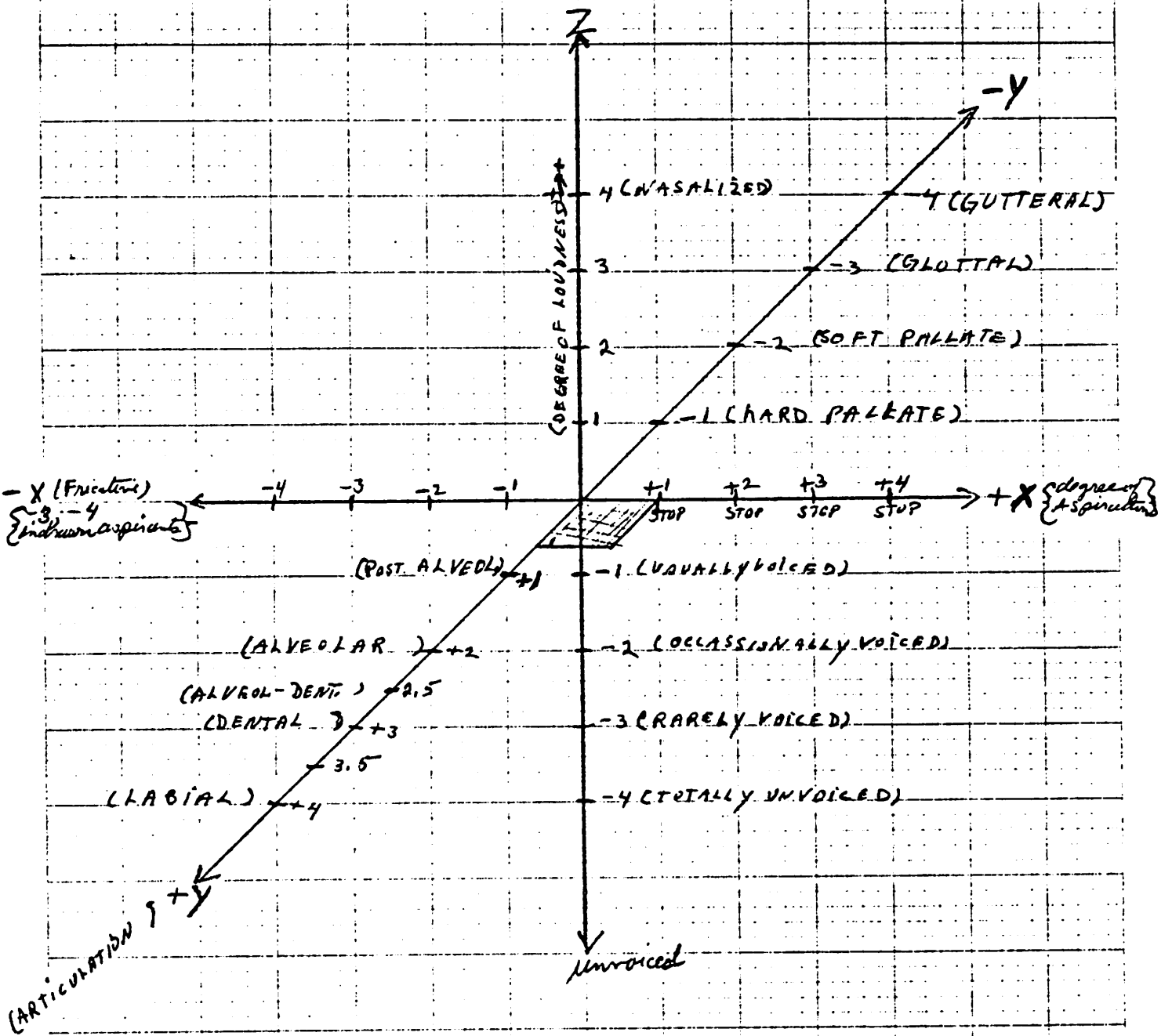


INCOMPLETE LIST OF THE SEMEMES

S	/-s' +/	level I	-4,+2,-4	/initiative/
	/:S-/	level II	-2,+2,-4	/masculine prefix/
	/:sh-/	level V	-2,+2.5,-3	
T	/-t-/	level I	+2,+1,-2	/creativity/
	/:T' -/	level II	+3,+2,-3	/feminine prefix/
	/:T' -/	level III	+4,+2.5,-4	/creative logic/
	/-tt:/	level IV	0,+2.5,-4	/analog, symbol, map, model/
D	/-d-/	level I	+1,+2.5,+4	/logic/
	/:D-/	level II	+2,+3,+4	/mathematics/
	/-d:/	level III	+1,+3,+4	/nature/
	/-d-/	level IV	+1,+2,+4	/nature/
N	/:N-/	level I	0,+1,+4	/time/
	/-n-/	level II	0,+3,+4	/immutable/
	/-N:/	level III	0,+2,+4	/ancient/
	/-nn:/	level IV	0,+2.5,+4	/primordial, basic/
	/-n-/	level V	0,-1,+3	/nature/ see /-ee-/ and /-d-/
M	/-m-/	level I	0,+4,+1	/chought/
	/-m-/	level II		/awareness/
	/-m-/	level IV	0,+4,+4	/contemplation/ allophone /-p-/
	/-m:/	level VI		/hallucination, fantasy/
O	/-o-/	level I	0,+4,+1	/tradition/
	/-oo-/	level II	0,+4,+1	/custom/ less than tradition
	/-O-/	level V	+1,-3,+2	/assimilate, absorb/
E	/-e-/	level I		/generic/
	/-ee:/			/pattern/ (see also I level III)
P	/-p-/	level I	+2,+4,-4	/general communication/
		level II		/verbal/
		level III		/visual/
	/-p-/	level IV	+1,+4,-4	/contemplation/
		level V		/total trance withdrawal/
	/-p-/	level VI	-2,+4,-4	/telepathic/
		level VII		/teaching/
R	/-r-/	level I	-2,+2,-1	/passivity/
	/-rr:/	level II	-1,-1,-1	/empassivates/
	/-r-/	level III	-2,-1/2,+1	/command, let it be done/ note also /:K-/
K	/-k-/	level I	+1,-2,-4	/blending/
	/-ck:/	level II	+2,-1,-4	/combination modified/
	/:K-/	level III	+4,-1,-4	/authority/
	/-K:/	level IV	+1,-1,-4	/responsibility/
	/-k-/	level V	+2,-2,-3	/and, logical inclusion/
	/-k-/	level VI	-2,-2,-4	/regulate/
B	/-b-/	level I	+4,+4,+4	/transportation/
F	/:F-/	level I	-1,+3.5,-4	/control/
	/-f-/	level II	-1,+4,-3	/meaning, import, significance/

H	/-h:/	level I	-1,-2,-4	/immanent/
	/-h-/	level II	-1,-2,-4	
	/-h-/	level III	-2,-2,-4	
	/-h-/	level IV	-1,-3,-4	
	/-h-/	level V	-1,-4,-4	
	/-h-/	level VI		
I	/-i-/	level I		/definite/
	/:i-/	level II		/privacy/
	/-ee:/	level III	0,-1,+3	/pattern, cycle/
L	/-l-/	level I	0,+1,+4	/harmony/
	/-L:/	level II	0,+2,-1	/end, finish/ note /:T'-/
U	/-u-/	level I		/from/
	/-u-/	level II		/by means of/
V	/-v-/	level I	-1,+3.5,-1	/or, logical exclusion/
	/:V-/	level II	-1,+3.5,+1	/precision, defined boundaries/
	/-v-/	level III		/diversity/
	/-v:/	level IV		
W	/-w:/	level I	0,+4,+3	/negation/
		level II		/modification/
		level III		/lessening/
	/-w-/	level IV	-1,+4,+4	/conflict/
Y	/-y-/	level I	0,-2,+2	/express/
	/-y-/	level II		/understand/
A	/-a-/	level I		/geographical region/
	/-ah-/	level II		/here, now/
TH	/-th-/	level I	-1,+3,-4	/derivation, change, evolution/
	/-th:/	level II	+3,+2.5,-4	/maturation/ (t)
TS	/:ts-/	level I	0,+2,-4	/society/
'	/-':/	level I	+1,-4,-4	/one aspect of contemplation/

VOICING



	S	T	D	N	M	O	E	P	R	K	B	F	H	I	L	U	V	W	Y	A	TH	TS
Level I	s'	t	d	:N	m	o	e	p	r	k	b	:F	h:	i	l	u	v	w	y	a	th	:ts
Level II	:S	:T'	:D	n	m	oo			rr:	ck:		f	h	:i	L:	u	:V	*	y	ah	th:	(t)
Level III		:T'	d:	N:				*	r	:K			h	ee:			v	*				
Level IV		tt:	d	nn:	m			p		K:			h				v:	w				
Level V	:sh			n		O		*		k			h									
Level VI					m:			p		k			h									
Level VII								*														

* -- indicates place where there is a definition but no letter.

Note -- Unless otherwise indicated by a colon (:) the sememes are combining forms and are indicated elsewhere in the form /-n-/. For example: /-rr:/ indicates a full stop at the end of a word or "end form" as in pon farr.

THE CULLING FLAME

by Jacqueline Lichtenberg

In Vulcanur, the Culling Flame is called idlomputt. According to Vulcanur Sememics Part II, the word idlomputt may be analysed as follows:

/:i-/	privacy
/-d-/	nature
/-l-/	harmony
/-0-/	assimilation
/-m:-/	contemplation (hallucination; fantasy)
/-P-/	total trance withdrawal
/-u-/	by means of
/-tt:/	analog, symbol, map

Thus the meaning of the concept/symbol, idlomputt, is that the privacy of one's inner nature is assimilated or absorbed (in the sense that an ancient custom or tradition-structure can absorb disturbing events without being greatly changed) in the act of contemplation (strongly related to hallucinating, fantasy or dreaming... the idling of the mind's machinery when no load is placed on it; a cooling off period) by means of the total trance withdrawal and the use of analog reasoning (such as the building of models of reality somewhat related to the symbolic dream-structures that the human mind constructs).

The human may think of the process as the overpowering of the rational mind by the fantasy-structure called dreaming. But one must take great care when likening this Vulcan mind function to anything known to the human. IT IS NOT RELATED TO SLEEP.

The word, idlomputt, can be used to refer to this state of dream trance when self-induced without external aid. However, since the Reforms, the designation has come to refer specifically to the Culling Flame device itself since the use of this device is so widespread it amounts almost to an addiction akin to humanity's addiction to coffee and teas. However, unlike addiction to coffee, tea, or tobacco, the abstinence from the Culling Flame can have serious mental and physical side effects. Fortunately these effects don't appear immediately. Abstinence would have to continue for several years before the craving would be noticeable. *

The device usually takes the form of a small statuette presiding over a tray in which a cold flame burns. When in hard use, the flames leap spectacularly and often, if the need is great, they will display a rainbow of hues dazzling to the eye. When not in use, the fire glows like coals laid into a bar-b-que fire. At no time does the idlomputt develop any appreciable heat and it can in no way be accidentally triggered into violent explosion. But it can be induced to explode if the operator knows how and is willing to accept a high probability of self-destruction.

The figurine guarding the Flame is symbolic of the ancient gods of the primitive Vulcans. It is more a warning than a superstition to use one of these figures who were reputed to slaughter mortals who trespassed into the realms of their mysterious powers... for the idlomputt of one person cannot be used by another. Thus, each owner of an

idlomputt chooses a god-figurine which represents his own personality closest and has the statuette placed over the Flame so that nobody could ever mistake the Culling Flame for the Welcome Flame or any other manifestation of the Science of Mind.

Only the kataytikhe and certain extremely talented and well trained technicians are able to kindle an idlomputt. As with most works of art, there are varying qualities of idlomputt and those constructed by kataytikhe are the best. The very finest are those constructed by kataytikhe for themselves, as nobody knows his own mind pattern better than a kataytikh. **

It is possible to key an idlomputt to two different people but it is not customary. However, if the two share some common bond it is possible.

With the aid of this device, a trained Vulcan culls through his memory selecting those to be recorded permanently and those to be forgotten. The idlomputt is a vital adjunct to the famed Vulcan eidetic memory since not every Vulcan has this attribute to a like degree. The idlomputt also performs some of the functions performed for humans by a sense of humor... that is aiding in the attainment of a proper perspective on highly charged events.

ABSOLUTE PRIVACY IS REQUIRED IN USE OF IDLOMPUTT.

* "The Secret of Groskin" Kraith IIID. "Not that essential, Doctor, I can replace it easily enough. It is a small luxury which one craves only after years of abstinence"

** "The Empath". Spock keys the hand device to his own brain pattern with an ease which is startling.

ZYETO: One morning after Spock had saved his life (again) by using the Vulcan mindlink on him, Kirk found the following tape in his viewer. He snapped it on and read:

"The Grace of Age is achieved by accepting even the necessities of inward growth."
from the Book of Joys

"The hidden fallacy can be a tool of instruction or destruction... the choice rests with the student."
from the Book of Books

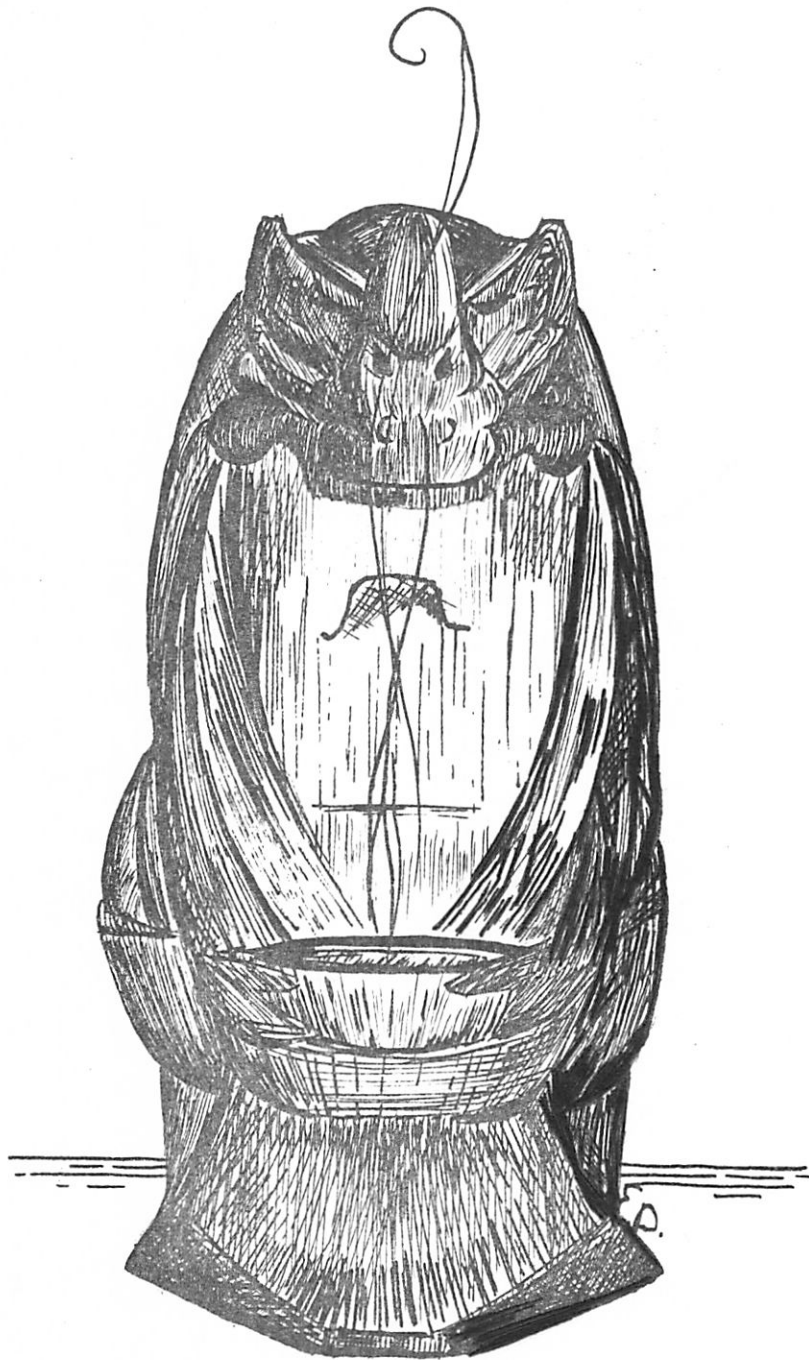
"When thee walks in the Garden of Ancestors, thee hacks a path through deepest forest."
from the Book of Sources

"To touch the mind of another is to assume the burden of his desires... even unto death."
from the Book of Life

"Extend thy roof to shelter thy brother, but build his walls of woven silence and his windows of one peace."
from the Book of Imperatives

"As the nascent volcano is harnessed for the community; so also is the kataytikh bound to his duty."
from the Affirmation of the Continuity

"May you live long and prosper greatly. May the House of my Ancestors protect thy descendants unto the third generation; and may you cherish my memory in Peace."
from Surak's Construct



THE JOYS OF VULCAN

by Jacqueline Lichtenberg

AUTHOR'S FORWARD

"Peace without conflict is life without purpose."

from the Book of Logic

"These are the Seven Years and in the Eighth Year, the child is born."

from the Book of Life

"You will sit and learn. Then you will rove and in your travels you will learn the purpose of Knowledge. Go ye, in the Eighth Period and be born anew."

from the Book of Books

"The rhythm of your life shall keep the tempo of your natures."

from the Book of Sources

"It is illogical to deny one's nature."

from the Book of Imperatives

"He who bares the Vulcan Heart to Outsiders is guilty of betrayal of his Fathers.¹ // Commentary: T'Kri:: How did the Ancients of Days [for the dating of this parchment see S'A'Adshi 12:19:43] conceive of anyone outside of Vulcans? It is plain [see S'Kond 15:591:12] that the word, Outsiders, pertains to Offworlders. //##Commentary: S'Dul:: The penalty for Betrayal was public Disgrace followed by merciless Public Execution. It has never been invoked.##"

from the Book of Fragments

"May our differences be combined under the auspices of the idic and may our joy be inscribed in eternity."

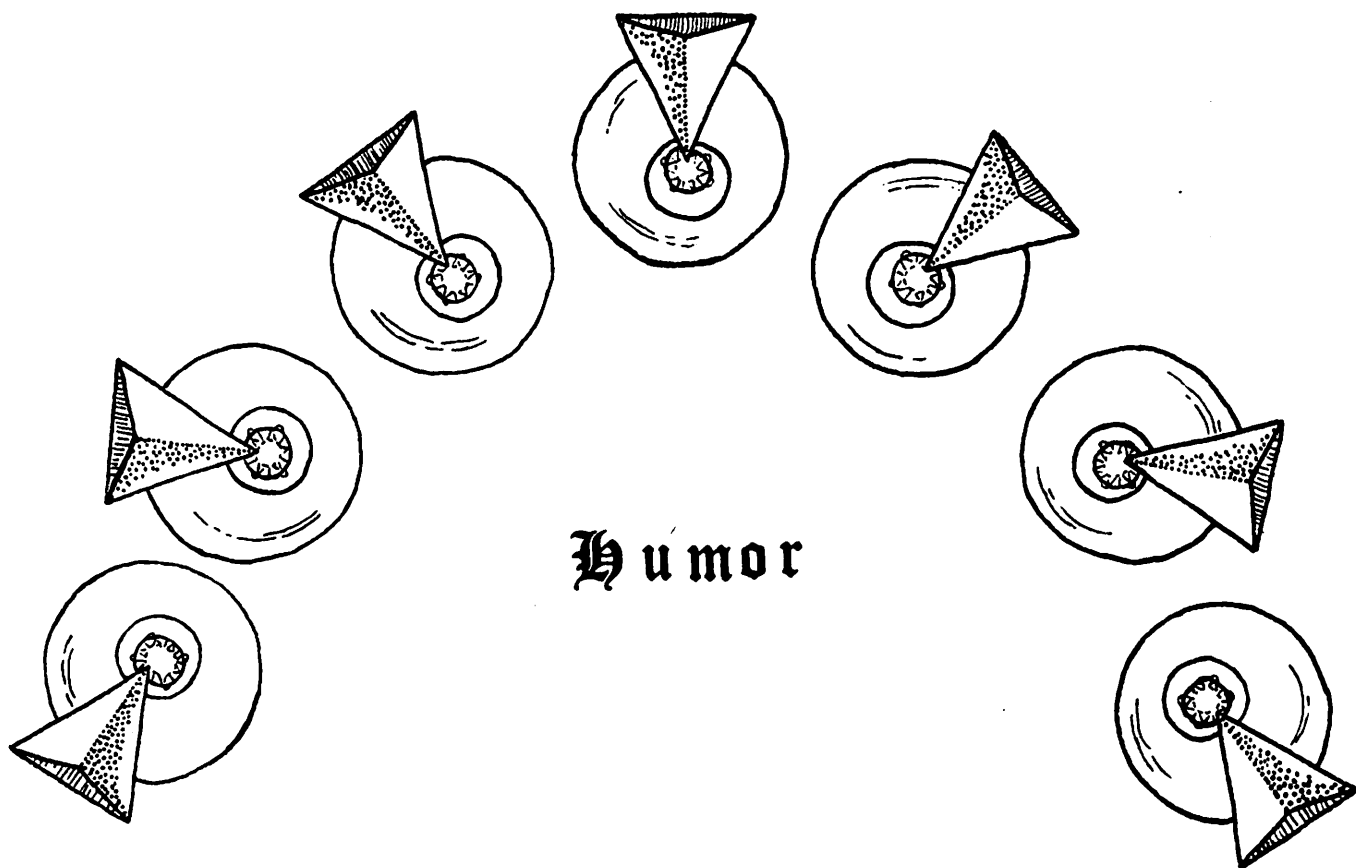
from the Book of Joys

"May you live long and prosper greatly."

from Surak's Construct

"The Joys of Vulcan" is an earnest attempt to bridge the empathy gap between the human and the non-human.

In discussing the Joys of Vulcan, the question immediately arises, "What is the difference between a Joy and a joy?" For the purposes of this series, we will adhere to the following definition: A Joy arises from contact with the primal functions of existence whereas a joy is a personal, private experience with no particular relevance to the life of



H u m o r

Chuckle

Laugh

Groan and wheeze

Gasp and giggle

Wipe a tear

Hold your sides

And catch your breath.

Seek you this foul agony

Once more for freshened

Ecstasy.

Shatter the thought

Break the train

Strick discipline dispelled.

Clear the Mind

Plow it under

Leave it fallow

And go to graze

In far pastures

Among remembered

Breeze.

Catharsis, the common goal
To seek the forest
Despite the trees,
A need well known
To all-shaped sentience.

Vulcan humor does exist, but it is not defined in quite the same way as human humor. Vulcan humor is not an attempt to evoke emotion but rather an attempt to amuse or bemuse. The Vulcan humorist focuses attention on the relatively trivial... but for non-trivial reasons.

The function of humor in human society is to induce laughter, releasing the tension of other emotions (such as anger or fear). It may also be used to restore perspective or proportion to the subjective view of reality.

It is part of human nature to use anything connected with emotion as a weapon. Sex, humor, or dignity: all can be enormously powerful weapons when used as seduction, satire, or humiliation.

But, although Vulcans recognize the destructive potential in humor, they have chosen a "non-violent" philosophy. No non-violent philosophy may proscribe only physical violence and remain an efficient basis for society. The proscription must also include all forms of personal attack.² Therefore, the use of sex, humor or dignity as interpersonal weapons must remain counter to Vulcan mores.

The function of humor in Vulcan society is not to induce laughter. Laughter is outside of the Vulcan social order. And Vulcan humor has no relation to the emotional catharsis mechanism.

The function of humor in Vulcan society is to divert concentration, to destroy intentness, to change the mental focus... in other words, to restore perspective on reality. This is the one lone element that logical humor shares with human humor. And in this one overlapping similarity lies the key to combining differences to create new meaning.

We might ask why would a logic-oriented individual or society desire to shatter the quiet stillness of total concentration... to destroy that which is the fruit of lifelong intensive study? Why can't the practice of Vulcan mental disciplines establish and maintain the correct perspective on reality?

The answer lies in the inescapable imperatives of Vulcan physiology and psychology, both of which share a great many elements in common with those of humanity. It is these common elements which make the Vulcans' need for humor understandable in human terms.

The two most important similarities between Vulcans' and humans' brains are: 1) the speed with which nerve-impulses travel and 2) the number of linkages which make up a "bit" of information.

We must here borrow from computer science to construct an analogy. In a computer, the only possible way to represent information is by a simple on/off contrast. Complex information must be represented by a series of on/off cells which have positional meaning. Thus a computer can use only binary mathematics. This limitation extends to all forms of information.

There is reason to believe that organic brains function in a strongly analogous way. And this is apparently, the one major limitation that Vulcan and human brains share.

The Vulcan physiology allows a slightly greater number of linkages to form and break per second, but the order-of-magnitude is essentially the same as in human physiology. The greater speed of the Vulcan brain is evidenced by the Vulcan eidetic memory, lightning calculation, and direct control of bodily functions by conscious centers. Such talents do appear among humans but the incidence is low and such diverse abilities rarely occur in the same individual.

The significant point is that the order-of-magnitude of the number of linkages-per-

second is the same for both human and Vulcan brains. This imposes similar limitations on both human and Vulcan thought processes. These limitations result in a similar reliance on simplification of complex reality.

Situations which are too complex to be dealt with as a unique whole are resolved into a series of analogies which are less complex and which are also familiar. This is admittedly a distortion of reality for the sake of practicality. Humans generally test the results of reasoning-by-analogy by whether the result pleases them emotionally.

The Vulcan mind shares the human need to break unique complexities into familiar simplicities. This need is evidenced by the Vulcan emphasis on logic as the supremely powerful tool of thought. Logic is the mechanism by which intelligence may test the validity of the analogies which it must choose.

But the application of logic to the instinctive, thought-by-analogy-mechanism requires an enormous amount of concentration. The higher critical faculties must be focused on a sharply defined, purposefully distorted view of reality. Then, one by one, other views must be added to the picture so that the resultant composite resembles true reality as closely as possible. After this composite has been carefully constructed it must be tested for validity.

Thus we have two types of thought processes, analysis and synthesis, which must take place. Reality must first be broken down into simple components, reasoning must be performed on these components, then a new perception of reality must be constructed. The final step, before the results may be applied, to check the validity of the new composite analogy. Even if the reasoning performed on the original analogy was strictly logical, the results may not be valid.

So, at this point (the checking of the validity of the results of reasoning) it is necessary to destroy the concentration that produced the results. It is necessary to gain a new perspective on reality in order to judge the validity of the results of logical reasoning.

Although both humans and Vulcans have other uses for humor which they do not share, both humans and Vulcans often use humor to regain the perspective on reality that allows critical evaluation of the results of reasoning. And, for both humans and Vulcans, illogic is a prime ingredient in humor.

Vulcans often use a liberal dose of illogic to destroy concentration. They term illogic "amusing", "diverting" and "refreshing" (but never funny)³. This combination of logic and illogic, two diametric opposites, seems, at first glance, most un-Vulcan. But, when one examines the concepts represented by the idic, one perceives immediately that the polarity of opposites is not only sanctioned by Vulcan philosophy but is hailed as a source of creative vitality... and Joy.

There are other bases for Vulcan humor besides illogic. Many of these are incomprehensible to the human mind. In general, one can only say that a Vulcan will not be amused by any human humor which hinges on a loss of dignity or an invasion of privacy. After a great deal of practice with a human language, a Vulcan may learn to perceive the pun, but most Vulcans would find the effort involved unjustified.

Since the tripartate Vulcan World Language was synthesized to facilitate logical, unambiguous communication, it is extremely difficult to construct native Vulcan puns. However, with the recent growth of a human-Vulcan bilingual community, this element of human humor may diffuse across the nearly impervious human-Vulcan cultural interface.

The one case where the two modes of thought and cultural outlook can mix freely is that of the human-Vulcan hybrid. It is extremely rare that such a hybrid not only survives to maturity but also attains an adjustment to life which allows sanity to be maintained. But it does happen occasionally.

The only individual of this type who has consented to undergo an analysis of his records is Spock, the son of Sarek of Vulcan and Amanda of Earth. The bulk of this material consists of log tapes of the U.S.S. Enterprise.

The only conclusion that can be drawn from this mass of data is that Spock has a sense of humor which is neither human nor Vulcan but which partakes of elements of both. One may speculate that one reason for his willing acceptance of a berth aboard a human-manned Starship is his hybrid sense of humor.

Spock says he never jokes. Yet when asked if it is true that Vulcans cannot lie, he answered, "It is no myth" ("Enterprise Incident"). On another occasion he said that "... the resultant flood of illogic would be most amusing" ("Ultimate Computer"). Note that he said "amusing" not "funny."³ Illogic, paradox, and fallacious argument are all legitimate tools of Vulcan humor. Mr. Spock does not "joke" yet he used paradox in an attempt to destroy concentration... which is by definition a Vulcan joke.

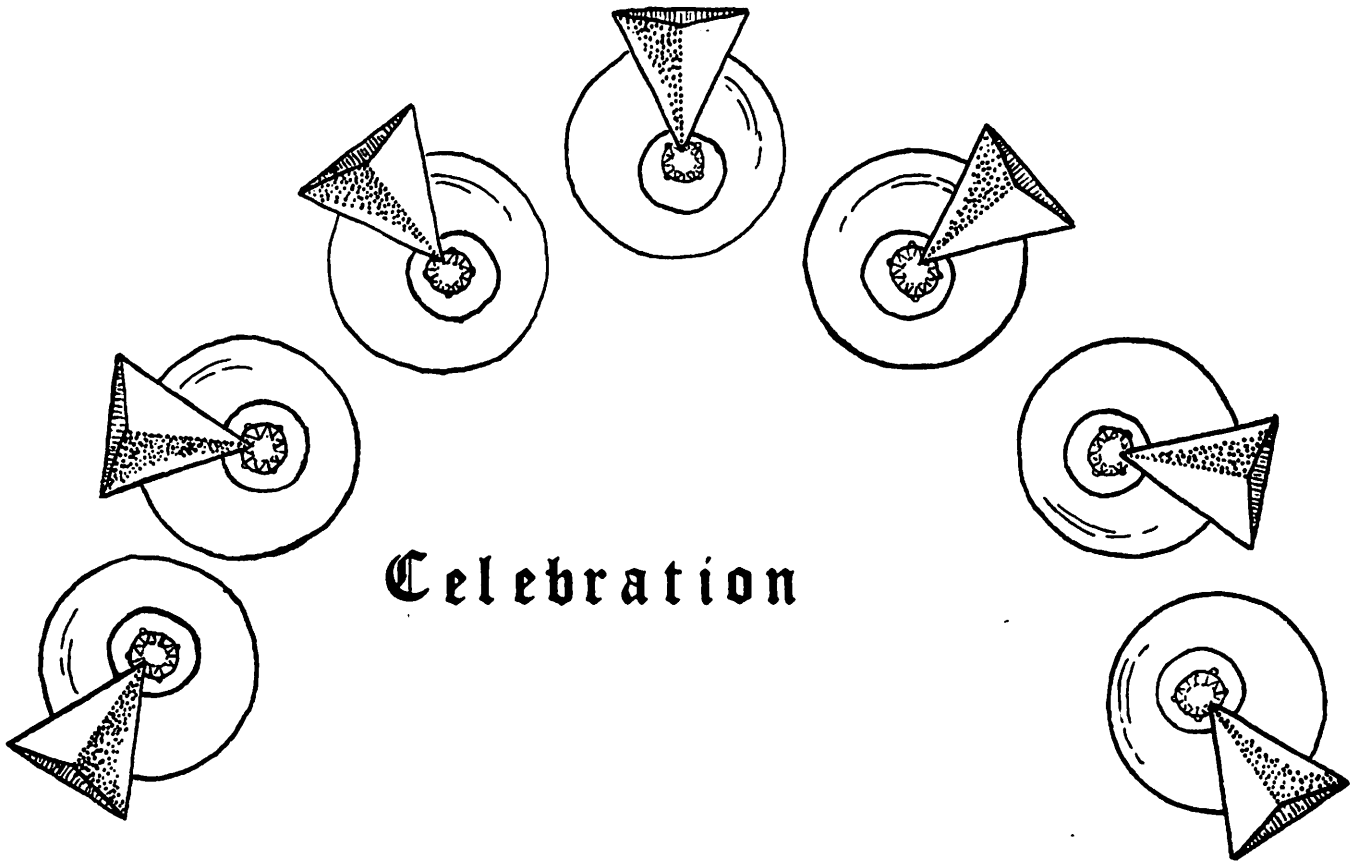
The apparent inconsistency here is merely a semantic problem. Such a hybrid personality, whose physiology favors his Vulcan ancestry and whose culture by early training and later choice is Vulcan, must have a whole range of subjective experiences which cannot be communicated in either language.

The vast majority of human "jokes" depend in some measure on a loss of dignity. A Vulcan can see nothing amusing in loss of dignity. The vast majority of Vulcan "jokes" hinge on fine points of logic or a built-in peculiarity of the Vulcan mind.

He who stands between can appreciate parts of both types of humor but also has a humor which is uniquely his own and to which he owes his continuing sanity ("The Enemy Within").

FOOTNOTES:

1. "Amok Time": "It is a thing no offworlder may know." Also: "It is illogical to deny one's nature."
2. On the other hand, the proscription must not include aggressiveness because aggressiveness is the inescapable concomitant of creativity.
3. Kirk to Spock, "Mr. Spock, are you trying to be funny?" "It would not have occurred to me."



Celebration

The beat of drum
The call of horns
Brassy, wild,
Audacious, bold...
The blood to stir
The mind to blunt
The beast to rouse
The Man to souse.

The chant of bells
The call of horns,
Strong and mellow
Ancient, cold
Green blood to cool
The mind to clear
The beast to quell
The Man to rouse

The Tribal Dance
Does wax and wane,
But
There be, in truth,
Scant similarity
to feed
The Joyousness
Of the deed.

In order to discuss the role of the celebration in Vulcan society, it is necessary to define several terms, remembering that a given word may have diverse meanings to different speakers of the same language.

First, we will define Elation not as an "emotion" or a "feeling" but as a "sensation"³. This is done in order to narrow the domain of definition of the word, elation, to that territory common to both Vulcans and humans. Thus, Elation will be taken to mean that portion of the experience of elation known to every human and Vulcan as well.

Many native speakers of English would characterize Elation as a feeling of exhilaration,⁴ and give little further thought to the experience. To a Vulcan, however, the experience is both rare and important. No Vulcan would dismiss his first encounter with the sensation of Elation without deep meditation on the philosophical consequences and significances of the mere existence of Elation.

For humans, the dominant component of Elation is emotion. Hence, human Elation can be triggered by an experience which should not, logically, produce so strong a reaction.

A Vulcan actually does not experience the emotional component of Elation but only the pure sensation. Vulcan Elation can be triggered only by an event of logically compelling magnitude. When such an event does occur the intensity of the resultant sensation often surpasses the analogous human Elation.⁶

Let us search for the reason why Vulcan Elation is more intense than the analogous human Elation.

Vulcan philosophy teaches that all the Universe is governed by principles which fit together to form a coherent whole.⁷ Though the pattern of natural laws may be as complex as the network of streams draining a continent, ultimately all natural laws join in the creation of a coherent whole just as all the streams of one watershed empty into the same ocean.¹ Even though parts of the stream appear to move tangentially to the drainage direction, they still form part of the greater pattern and contribute harmoniously.

But it takes energy to move water against its natural drainage direction.

The total amount of energy available in a given system is constant. If energy is to be applied to water to move it against its natural drainage direction, a certain portion of that energy will be stored as recoverable potential energy and another portion will be "lost" by dispersal into the environment (friction).

If we construct an analogy between continental drainage and the flow of society through time, we can assign the following values. The molecules of water represent individuals and the fluid represents society. A drop of water deposited on the highest point of land is analogous to the people born at some given instant. The higher it is deposited, the longer its "life-expectancy". In the course of life, events may occur which cause the individual to move against the natural drainage direction. Energy thus is stored in that individual.

But where did that energy come from?

If that energy came from within the drainage system (the society) such as by an act which elevated one person at the expense of another², a portion of that energy was lost to the system in moving the individual. Thus the society as a whole loses. The net available energy of the system decreases though the total energy remains constant.

Emotion is like such an internal energy source⁸. Emotion elevates at the expense of another person. It is a drain on the total available energy of the system (society).

Elation is like an external energy source. If the source of energy that lifts the individual against the natural drainage direction is external to the system, the net available energy of the system is increased.

But what good does stored potential energy do for the system if it cannot be tapped and employed for the good of the system? It does no good. Therefore, some means of tapping and controlling the stored potential energy that results from emotion or Elation must be found.

Humanity has very little organized social machinery designed to deal with the recoverable potential energy that results from emotion. Most often, such energy is wasted along with the inevitable "friction" losses.

The Vulcans have minimized the waste from emotionally induced potential energy⁹ and have created the social machinery whereby the free potential energy of Elation can be harnessed for the good of society.

They do this by appointing carefully structured Celebrations to mark the occurrence of an Elating event. Thus, every individual who has become Elated has a means whereby he can discharge this potential energy into the Common Reservoir of Society without causing distraction.

Such energy is added to society by the intelligent reaction of individuals to marriages, births, and deaths, as well as to the Traditionally Appointed Celebrations¹⁰. The source of this energy is external to all known defined systems. Speculations about the nature of this source form the basis of Vulcan Theology.¹²

These Celebrations are society's tools for salvaging "free" potential energy.

However, Elation (or a free rise of potential energy) can occur in isolated individuals. With births, deaths, and marriages, a number of individuals are affected: i.e. all personal acquaintances, family members, employees, etc.. Hence, construction of social channels for salvaging this energy is possible. But in the case of Elation of isolated individuals, no such social construct is possible.

Nevertheless, such energy need not be wasted. The isolated individual has many channels available by which he may contribute this energy to society. These channels are termed "artistic endeavor".

For Vulcans, such channels of "individual creativity" are music, poetry, creative logic, science, technology, graphics, philosophy, and tokiel. It is for this reason that Vulcan society demands that every child be thoroughly instructed in all art-forms, whether he currently displays talent or not.

In the case of a hybrid Vulcan/human who might experience both the human and the Vulcan Elation as well as some unique mode of his own, it is doubly important that he be instructed in as many forms of artistic expression as possible¹¹, not only because he must be taught to avoid de-excitation by violence but also because he will have to choose to which society he will contribute any energy of Elation.

"Justice is more than equity, mercy more than leniency, and a contribution is more than the contributor."

from the Book of Books

"Thee is not required to attain perfection; but, neither is thee free to abstain from the effort."

from the Book of Imperatives

"To speak of the "included" is to imply the existence of an "excluded". "

from the Book of Logic

"Wisdom is not gained by waiting, nor is it lost by forgetting."

from the Book of Sources

"Participate in the affairs of a select few, but observe the affairs of many, for the few are a part of the many."

from the Book of Life

"Cast yourself down beside the spring and drink of the planet's pure water. But remember as you do, the planet gives you water as your mother gave you milk."

from the Book of Fragments

"Elation is not attained by passivity, increased by hoarding, nor enjoyed by wasting."

from the Book of Joys

"May You Live Long and Prosper Greatly"

from Surak's Construct

FOOTNOTES:

1. The Philosophy of T'Kiamut'h is illustrative of this concept. T'Kiamut'h is based on the idea that all the functions of the Universe can be expressed in a system based on four parameters (such as the simplest algebras). This is the theoretical background of the art of tokiel. See also, Kraith I and III.
2. Acts of violence or aggression. See Joys of Vulcan, Part I on the proscription of violence in Vulcan society.
3. "There is a definite, pleasurable sensation connected with hearing your voice, Captain." "Spock's Brain".
4. "Patterns of Force": "No matter how carefully one computes the odds, there's still a certain... exhilaration... in the risk." "Very good, Mr. Spock, we'll make a human out of you yet." "I hope not." (see also #5.)
5. "Gamesters of Triskelion": Spock discussed "hope" as an experience foreign to him.
6. "Amok Time": Spock's reaction on seeing Kirk alive. Spock has displayed much greater control under similar circumstances, ("Tholian Web", "That Which Survives", "Wink of an Eye", "Mark of Gideon", etc.). In "Amok Time" we might theorize that the pon farr state is, in addition to being a pure physical condition, also a state of Elation. Because of the nature of the end of the "Amok Time" ceremony, the Elation was not fully dissipated. Kirk's re-birth produced a second Elation, a much stronger reaction than a human would experience... and that coupled with the milder emotional component, precipitated the physical display.
7. "Spectre of the Gun": When physical laws did not function, Spock concluded the situation was basically UNREAL. (Personally, I believe his reasoning fallacious. I can excuse it only by assuming that we were viewing a badly edited log tape.)

8. "Plato's Stepchildren": "I have often observed that the healthy release of emotion is singularly unhealthy for those nearest one." For another use of this quote, see Kraith II.
 9. "Plato's Stepchildren": Spock's hatred destroyed only a ceramic cup... not an irreplaceable life. Granted, such an emotion should never have been allowed to take hold; however, the provocation was that of violating two of the Prime Tenets of Surak's Construct... Reverence for Life and Privacy (of mind). It was not based merely on humiliation.
 10. For example, The Affirmation of the Continuity. See Kraith I, and the mountain scenes from Kraith II.
 11. "Requiem for Methusalah": Spock sat down and sight-read an intricate waltz.
 12. Vulcans do not generally accept unfalsifiable propositions. Hence, theological questions are left unanswered.
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ZYETO:

"The seeds of violence are sown by the ignorant and reaped by the innocent."
from the Book of Life

"The Flame is an analog to the intellect. As the Flame may be extinguished by water, so may the intellect be extinguished by emotion."
from the Book of Joys

"The pleasures of the body are the gateway to the soul; he who dallies in the gate may be trampled."
from the Book of Sources

"Animals eat to feed the body; people eat to free the mind."
from the Book of Fragments

"Offer thy guests the light by which to learn; banish thirst from between thy walls; but remember that as the body may become gross and useless from excesses, so may the mind sicken on its own wealth."
from the Book of Imperatives

"The duty of the present is the past-duty of the future. Ignore it and it is as if thee dies without living."
from the Book of Books

"The Kataytikh lifts the Kraith that the future may drink of the past."
from the Affirmation of the Continuity

"May you live long and prosper greatly."
from Surak's Construct.

THE LINGER DEATH

by Jacqueline Lichtenberg

It has become clear that a story will be necessary to support some of the events of Kraith VI.

One of the greatest complaints against the Kraith Series has been that the plot events have become repetitive. There are good reasons for this repetition... of Spock's repeated marriage for example.

These reasons become clear only by the end of Kraith VI when we begin to see the cumulative effect of them on Spock. One of the points that requires clarification so that the effect on Spock will be fictionally clear is the nature of the alternatives he will face in Kraith VI.

The articles "In Defense of T'Yuzeti" and "Spock, Guardian of the Tradition" have touched upon some of these alternatives. Kraith V gives us a very brief glimpse of the nature of Vulcan "grief" for a spouse, a glimpse we are not allowed in earlier stories. And it has been established in these articles that the reason for Spock's behavior in Third Season can be traced back to the improperly terminated pon farr of "Amok Time".

We have seen, however, that Spock is not dying the Linger Death. The termination, however unsatisfactory, was not so bad as to leave him in a state of high tension that would slowly erode his vitality until he died a wasting illness death.

In fictional terms, what the plot of the Kraith Series needs is a story dealing with a Vulcan who does die the Linger Death, and who dies because of his involvement with Starfleet red tape. Such a story would be basic to the overall plot of the Kraith Series because it would illustrate the state of prejudice underlying the "sweetness and light" of the UFP, and if it were written well, it could also mark the turning point when the UFP begins to realize the intolerable nature of the de-facto discrimination in their society.

Such a death would make interstellar history and banner headlines from here to Orion's Belt.

The story would not have to include any Enterprise characters, and should not include Ssarsun (since he has a separate series) unless Pat Zotti decides to write it (she's adopted Ssarsun) or unless the author writes it in conjunction with Pat. Thus, it would be an excellent spot for someone not too deeply familiar with the plot events involving the Enterprise but familiar enough with Kraith to handle the Linger Death and UFP politics. It would be a good spot to kick off another sub-series with in the Kraith Series. Several such Linger Death stories could be admitted to the Series, so if you have one, write it up and submit it.

THE LESSON

by Jacqueline Lichtenberg

POTENTIALLY KRAITH IE

FRAME: During Ssarsun's efforts to establish the necessary deep contact with Spock's mind (AFFIRMATION, Kraith I) he hits an incident from Spock's school days.

Spock was severely reprimanded for resurrecting a poem from pre-Reform literature and setting it to logical music which he wrote himself purporting to explain the significance and relevance of the piece by relating it to a Zyeto set which is a classic artistic composition. He was found singing the piece, accompanying himself on the lytherette, before his classmates while they were supposed to be outside exercising.

Brought before the authorities, he argued that it is proper to expand the Tradition to include ALL the Vulcan Soul. Citing the Philosophy of Nome and Surak's Construct, he argued that excluding a part of self is the same as suicide. He lost the argument, but not his convictions (a most un-Vulcan reaction which he took pains to hide).

He was admonished that he was a child, not yet qualified to mold and guide the Creation of the Tradition (which is regarded as a dynamic, ever growing, ever enriching entity, like a multi-colored skein of yarn twisted into a coaxial cable that is forever being wound. The far end coalesces from many sources, the near end diverges to embrace all reality).

Spock ceased his creative endeavors, but a touch sullenly, resolving to "show them" when he grew up. By the time he had matured to that point, the incident was buried and forgotten amid the far more urgent imperatives of his own personal destiny.

But Ssarsun's mind touch re-awakens all of this in a flash and, as Schillians are prone to under such circumstances, Ssarsun experiences one of those disturbingly accurate premonitions. There is that in Spock's soul that will force him to take up once more the crusade his ten-year-old mind instinctively saw to be the course of tsaichrani... the expansion of the Tradition to embrace elements that he knows to be dangerously destructive and yet utterly essential to continued existance.

Consult the JOYS OF VULCAN III article on possessions. The giving of gifts places the giver under obligation to the reciever because Vulcans regard possessions as liabilities not assets.

THE GIFT OF YEARS: is the gift the kataytikh makes to tsaichrani. It is essentially the first 20 years of his life, but the obligation does not end there for he is obligated as is any gift-giver (note-- Spock gave the Flame Spheres as gifts and thus assumed a formal obligation which neither recipient knows about or understands) to see that tsaichrani has the resources to utilize the gift to fullest potential. The ramifications of this idea are complex and far-reaching.

The kataytikh is not compelled to make this gift because it must (as with all gifts) be an act of free will. The Gift of Years consists of what is known among humans as the "training" of the kataytikh. As usual, humans understand everything backwards... among human societies the child's education is "given" to him by whoever pays money for it -- an education is "received" or "gotten". In actual fact it is the child who makes the greater sacrifice.

The Vulcan culture has all the hallmarks of a pioneering renaissance with vigorous creative folk-arts abounding. This has gone on for 2000 years and shows no signs of abating.

The Vulcan economy is NOT growing, but it is so stable and satisfactorily balanced as to be a subject of curiosity to Federation economists. The Federation Economy is expanding at the self gorging pace of the American economy of the end of the 20'th century-- a very dangerous condition.

PLOT: The teacher comes into "class" equiped with a lesson plan consisting of a classic Zyeto set on the limits of permissable inference. (That is, where "necessarily infers" leaves off and "speculation" begins.) The lesson is designed for eleven and twelve year olds (Spock is in the class at ten years of age, he is not the only kataytikh; the other is nine years old). Since Vulcan's Federation Membership requires (all membership terms do not require this) the teaching of basic English or one of the other Federation languages, the day's lesson is to be translated into English.

The teacher projects the Zyeto onto the big screen and the children (about six or seven in the class) take turns translating. The machine records the translations as spoken. Spock's utterances are characterized by a flair for imagery that the other children lack. He uses phrases like the following:

The voice of the past speaks through...

The keys of thought rust...

The ethereal grace of the Divebird...

One child noted for sarcasm comes in with "And what inthe universe is a Divebird? To which Spock loftily names the species of silver bird that greets the Vulcan dawn with a swooping dance. The other child acknowledges that the birds dive, but they greet flying insects, not the dawn and they don't "dance" they only chase their breakfasts. To this Spock answers acidly that he didn't create the English language. The teacher chimes in with "Spock, what have you been reading?" and Spock answers innocently "the bible". "What bible?" Spock pulls out a copy complete with the Hebrew text and three translations and the New Testament and apocrapha. The teacher grants that the imagery is filled with sonorous phrases but the lesson of the day is precision not artistic flourish. Spock answers that it is impossible to be precise in English, therefore it is a useless language unless one plumbs the depths of its artistic potential. Since Vulcanur is so designed that an utterance which is precise is automatically elegant, it is impossible to translate the quality of the utterance into English. It is better to capture something of the beauty than to fail in the precision of meaning. Therefore, his translations are more appropriate than those of the other students. The teacher concedes the logic of this, but requests Spock to attempt a precise translation as an exercize and to establish his ability to do so. Spock does the whole set straight without flourish or flowers and practically without pause for breath. Satisfied, the teacher continues the lesson.

Later, Spock is caught using a phrase he cannot elucidate. He has referred to an emotion of "love" (or something like it) and can neither translate or explain it-- and has little conception of the consequences of a relationship based on love. Having made the

point that one may not use language beyond one's comprehension, the teacher requests that Spock refrain from flowery embellishments in the future. He agrees readily.

After the class ends, the other children ask Spock why he used the emotion-term he did. They cannot believe that he made the error the teacher is convinced he made -- and indeed he did not, at least not quite as badly. He THINKS he has grasped the essence of the concept and to prove it, he pulls out a history book and shows them a poem that was a song before the Reforms. They are much impressed with his scholarship and in typical small-boy response, he offers that he has constructed modern music to the old song. Of course, the class won't rest until they hear it and somebody who is going on to a music class has a lytherette.

The concert ensues -- broken up by the teacher returning expecting to find an empty classroom. The teacher listens unaware to the students long enough to be thoroughly shocked. (Naturally it is a song about pon farr, but the children really don't understand any of it. See SURAK'S CONSTRUCT for the reason they aren't as sexually sophisticated as our ten-year-olds.)

The teacher breaks up the concert and takes Spock (by the ear as it were) to the Daughter in charge of the curriculum. The Daughter's lecture consists, in part, of the Vulcan concept (perhaps stated in a Zyeto quote) that speaking to a person is a privelege not a right. One must judge whether the addressee desires to receive the communication. Thus, the one who initiates the communication is as one who gives a gift -- in a position of obligation.

The teacher's lesson plan/Zyeto set may be grouped around the idea of the obligation of the gift-giver.

Any portion of these ideas, or any combination of some of them with any other Kraith notions may be combined to create a story out of this. Anyone who uses some of these ideas should send a copy of the outline to me.

Another possibility would be to tell the entire story from Ssarsun's point of view-- he would of course have to place the memory of Spock's memory, and of his premonition, under block so that it wouldn't become public knowledge even among other Schillians with whom he might have contact. Therefore, the careful recalling of it in detail would be essential to the creation of the block. This would require privacy and ought to be done while Spock is the only person he was in contact with.

For the purposes of this story, we may use Zyeto quotes already in circulation or we may invent some new ones. Or we may use none at all. We may group the whole Zyeto around the position of the kataytikh in society, or it may progress through all of these points cited here.

THE LETTER FILE

Saturday, November 25, 1972

Dear Jacqueline,

I'd like to argue with you about the dis-Affirmed and their value judgements, thought processes, etc..

In the spirit of ancient rhetorical tradition, I'm first going to establish my credibility and authority as a philosopher. Namely: I have had 18 semester credit hours in philosophy -- one of which was an epistemology course, the others in intro. philosophy, philosophy of alienation, Indian and Chinese philosophy, and ethics. Well, scratch that-- I guess it's 15 hours. I have, likewise, done very well in philosophy -- as a matter of fact, I have a better average in philosophy than I do in literature. So much for my credibility as an auger of philosophy.

Now, onto your business. I will try to be as precise and systematic, as logical, in short, as possible. I will make my premises as lucid as I can -- so that you know on what I base my arguments.

You say, "I didn't mean exactly to say that the DisAffirmed wouldn't allow themselves to make value-judgements but rather, that they wouldn't allow themselves to express such judgements in a way that would adversely affect others -- that is Vulcans respect the privacy of the mind. What you THINK is your own business, but when you try to sell your thoughts by passing them off as something they are not, that's fraud." What do you mean by "passing them (your thoughts) off as something they are not"? It seems to me that you are speaking of there being true thoughts and false thoughts -- or right thoughts and wrong thoughts. The former is epistemological, the latter, ethical. It would be easier to deal with the epistemological.

If we define logic as a method of reasoning, of reaching veracity, then we are speaking of what is "done" with the ideas we have. In other words, in logic we start off with a number of premises, A and B, and, taking these as our given, assuming them to be true, we perform logical operations on them. Socrates is a man. All men are mortal. Therefore, Socrates is mortal. $A \rightarrow B, B \rightarrow C, A \rightarrow C$. Now, the validity of whether Socrates is mortal or not depends only on the logical process. That "Socrates is mortal" is true, depends on whether the premises "Socrates is a man" and "all men are mortal" are true. If they were false -- if it weren't true that Socrates was a man or that all men are mortal -- nonetheless IT IS LOGICAL THAT Socrates is mortal. Whether A and B are true has no bearing on the veracity of the conclusion. So, what is obviously the problem is not the logic at all, but the truth of the premises. And how the hell do we know if the premises are TRUE? In other words, is it possible to attain veracity by reasoning from LIES!

What you, then, seem to be saying is that the Disaffirmed attain veracity through lies. In short, their premises, on which they perform their logic, are false. Now, my question is HOW THE HELL DOES ANYONE OBTAIN TRUE PREMISES? Do the kataytikhe have true premises? Well, obviously, they must. But where, I should like to know, do they get them? When I say that your Vulcan press censors, I mean that they decide which are the true premises -- and how the hell does anyone know? I do not think that the Vulcans, if they are trained logicians, have to worry about veracity. As a matter of fact, most humans are quite logical and when Spock speaks of logic he does not usually mean the operation of

of logic anyway, but the premises on which it is based. ST basically confused logic and ethics or knowledge anyway. That's why the opposite of being logical is being emotional -- not reversly illogical. In short, unless something radically peculiar happens to the minds of the Disaffirmed, they are as logical as anyone else. You seem to be saying that their premises are false and that this is an insidious danger. Well, of course it is. However, I give the Vulcans credit for not only being able to check the veracity of any argument but also decide whether the premises are true or not. You seem to grant veracity, but deny truth. Where, though, do the kataytikhe get the truth? And, if they and the Affirmed tsaichrani have it, then I submit you propose the existance of grace. The kataytikhe have grace -- though where the hell they get it beats me -- i.e. the kataytikhe have been given truth -- they pass it on via the Affirmation to tsaichrani. The Affirmation, in short, is divine revelation. God given light or truth. Is this, in fact what you're saying? You obviously assume the existance of absolute truth.

LL&P *Joyce*
Joyce Yasner

12/1/72

Dear Joyce,

What a delightful letter! Stripped down to rock bottom the argument begins to take on some sort of shape. Now we can see where we've gone astray, so let's have at it.

The real glaring discrepancies we have to deal with are only 2 in number this time. 1. Aristotelian logic does not apply and 2. "truth" is not a factor in the Kraith Vulcan weltanshaung.

Let's start with your qualifications. Very impressive and you've done them up proud with this display of expertise. My own credentials in the field are not nearly so impressive or official. I saw no reason to spend precious school years on courses on subjects I could learn just as well on my own, so I spent my school budget on laboratory science and subjects too difficult to learn on my own. I had only one course from the Philosophy Department. It focus on the Socrates syllogism and such like historical oddities. I detested that course and disagreed adamantly with the so called experts -- I still do. I think their feeble attempts at logic are laughable, and the "problems" they get hung up on are pathetic. That's just a matter of opinion.

Your use of the Socrates syllogism is very proficient. You make your point clearly and with sure authority. The way the example should go is of course to use the logic of classes explicitly, and then to relate that to the Heisenberg Uncertainty Principle, introduce the concepts of probability and allow the statements to go something more like this: (this is of course a simplified, condensed version leaving out all manner of quantifiers)

There exists a certain probability that Socrates may be at least partially contained in the class designated "man".

There exists a certain probability, possibly different from above, that a substantial proportion of the members of the class designated "man" may display the property "mortality".

Therefore, there exists a finite probability that Socrates may demonstrate the property "mortality".

Stated this way you can clearly see that truth is a totally irrelevant concept.

Thus the entire question of "true/false thoughts" or of "right/wrong thoughts" is also totally irrelevant. Consequently, the whole problem of epistemology vs. ethics is also irrelevant...until and unless we come to the point of attempting to evaluate the probability of Socrates dying, we must introduce a whole new order of reasoning-- namely "values," the question of what is more important than what and which has a greater USEFULNESS.

To illustrate the place of "usefulness" in logic, let's recall the story of the physician who, with his student, is diagnosing a critically ill patient. The student diagnoses the disease as being one which is incurable and terminal. However, the symptoms might possibly indicate something else. The diagnosis seems rather obvious and firm, yet it is still only an educated guess. So the physician says, "If it is disease X, then there is nothing we can do to save this man. If, however, it is only disease Y, there is a possibility that it might yield to treatment Z. Treatment Z cannot possibly worsen disease X, it would do neither harm nor good. Diagnosis of disease X is useless, however diagnosis of disease Y would be useful. Therefore, we shall treat this patient for disease Y because it is logical to do so." In the story, of course, the patient lived to demonstrate the usefulness of the logic.

Herein lies the difference between the mathematician and the engineer. The mathematician is interested in the detailed, inner workings of a sequence of derivations. The engineer is not interested so much in how a thing works but in that it works. The Kraith-Vulcan approach to logical-philosophy has many of the earmarks of the engineer's approach with the mathematician's mentality being only of secondary importance. (In human history, the mathematician has always been ahead of all other fields, developing tools before anybody had much use for them. On Kraith-Vulcan I think it was the other way around.)

From the way that Spock handled the Melkotian's illusions we can see that Vulcans are not so much concerned with the epistemological questions of the ultimate nature of reality or with such questions as whether a given thing is knowable or unknowable. The focus of Vulcan logic is rather upon how a thing behaves, how it interacts with other things, and what the results of that interaction are in relation to their own subjective reality. This is in a way a distant cousin of the Descartes shrug, "I think, therefore I am." Whereas Descartes was merely playing semantic scrabble, the Vulcans recognize that it is irrelevant and uninteresting to worry about such things. A difference which makes no difference is no difference.

In addition, the Kraith Vulcans are possessed of the notion which failed (in the UFP universe) to take hold among humans, that the mind is a tool with which we actually affect reality. What you think is so, can in fact become so if your tool is strong enough (or "the right shape to fit the lock"). This is a slippery notion which can strike abject fear into the hearts of those who rely upon the solidity of objective reality to give them security. It strikes down to the very roots of our concept of the nature of "man." Because of this, their entire view of the nature of reality differs subtly but radically from ours.

Using this weltanschauung, the entire question of obtaining true premises becomes irrelevant. The syllogism practically disappears from the inventory of logical processes, and the world is viewed according to the synergetics of overlapping patterns with a Heisenberg blurring at the edges---and the result is that it is reasonable for the whole to be greater than the sum of its parts, the function of intelligence being to maximize that sum.

Thus, the worrying about whether the kataytikhe "have true premises" and "where they got them"---and the entire result of this worry, that it implies some source of a "higher truth" and "divine revelation" becomes in its turn irrelevant to the argument.

The kataytikhe do not have "true premises." They have "useful ones" and that usefulness has been demonstrated by centuries of practical application. It is a matter of living memory

that Vulcans once almost killed themselves off with their fierce emotional ways. The solution to the problem (stipulating that survival is desirable), was simply to delete emotional judgments from the inventory of useful premises. The result of this deletion has been a slow but gradually apparent increase in the Vulcan population. A side effect has been an innate social stability amounting to stagnation of a sort-- that it has been this way "From the Time of the Beginning", and the very thought of changing that strikes pure terror into the Vulcan heart.

In Kraith, it is fear that motivates this conservatism. It is not an irrational, illogical, totally emotional fear, but rather the normal reaction of an organism to a threat. Through the Affirmation, the race memory has been passed down (condensed and edited, but still vivid as reality) from the days before Surak. Those alive today remember with their own minds how it was at the time of Surak's youth-- with a population so small (and shrinking at an alarming rate within one lifetime) that men died in plak tow [or killed] for lack of a mate, that women died childless when their husbands were cut down in war, and that whole blood lines were erased by slaughter. Into such a world, technology delivered the ultimate weapon capable of wiping out all life on the planet, and a value judgment had to be made. Is it desirable for this race to continue to survive? At what cost? They paid the price of emotion, and they live. They believe that if they cease to pay the price of life, they will die, and that death will not be a pleasant one.

Whether this is true or not is irrelevant. It is a matter of judgment that the probability it is true is too high, and the stakes too valuable, to warrant the risk. There is nothing to gain and everything to lose. Only a fool strikes that bargain. A fool or a young man. As with humans, it is the young male who is the primary source of the "adventurer."

It is the kataytikhe who have made this judgment of the probability of the introduction of emotional-premises causing racial suicide. The judgment is based on hundreds of millions of "bits" of information which is available in continuous, connected form only to the kataytikhe for it is these families that collect and guard the racial memory in its entirety, cherish it and teach it to the grandchildren.

However, as SPOCK'S ARGUMENT demonstrates, there is no strong consensus among Vulcans on the continuing usefulness of this attitude. Some, mostly the young as you would expect, believe that tsaichrani's structure must change or shatter under the impact of the UFP culture. Spock is slowly emerging as a leader of this movement, but he, himself, hasn't evolved a total plan of action. His sympathies lie on the conservative side, yet he can see that drastic action will soon be necessary. Those who have joined this movement for change are in a state of confusion, not being able to determine exactly what action ought to be taken. T'Uriamne leads what you might call a "far right" ultra-conservative faction stumping for change that will prevent further change, ossifying the structure of the society. The primary motivation here is fear, fear that any other course would amount to genocide.

Spock seeks to find another answer, a change which can be instituted to provide the necessary flexibility to the structure of tsaichrani, to let it "roll with the punch" as it were. He looks for this in the halls of human history, in the depths of human nature, and in the living reality of individual humans. If anyone can discover such an answer and "sell" it to the Vulcan electorate, Spock can. He has gained the confidence of the electorate and put together a coalition of "old-line conservatives" who want no change whatsoever and of the "hot-headed radicals" who want to junk the entire system. His position and performance as kataytikh and as Guardian, his lineage and his Argument via the Motek, have won over a substantial majority of the older generation if not to the concept of change, then to the ability to trust Spock's judgment of what to do. (These people are the ones who can see that there is indeed a problem; those who cannot understand that there exists a problem form another faction. Those who can see the problem and those who cannot are split, some for T'Uriamne, some for Spock.)

As to "truth": there exists a certain finite probability that T'Uriamne has the "truth", and there exists a finite probability that Spock has the "truth"; there also exists a probability that neither has the "truth." In Kraith, prophecy is not an attribute common to Vulcans. Thus, in Kraith VI, we will see that there exists at least one alternative to the above pair of solutions. It is an alternative whose logic will appeal to the Vulcan electorate while at the same time going squarely against their emotions. Again, it will be Spock who champions the cause, and wins his case. Whether that triumph will be a pyrric victory or not is the Question! The reader must decide for himself where the rights and wrongs of the situation lie.

You are correct that aired-ST was somewhat careless in confusing logic and ethics (and even morals on occasion.) That's one of the things that makes the analysis of Vulcan culture so interesting. If they'd stuck to classical definitions, the Vulcans wouldn't have ended up so alien.

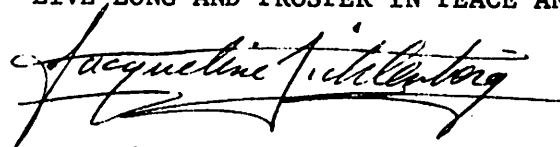
An important point to remember is that Kraith Vulcan history contains no incident of "divine revelation"---there isn't one of the hundreds of Vulcan cultures which has any sort of "revealed religion." You can say that this is unnatural and impossible considering the usual course of the evolution of primitive societies. "Revealed religion" pops up all over our globe; one would reasonably expect it to occur at least once on every populated globe. The reason in Kraith that the Vulcans never developed a "revealed religion" is simply that they are the descendent of colonists from an even more ancient civilization (race actually) than those who went around taking earth-human tribes and planting them on terraformed planets with meteor deflectors. The original Vulcan colonists had some very definite ideas about what they would admit to their culture and what they would not under any circumstances admit. A few, a very, very few, of these inhibitions remained along with a scarcity of galactically-oriented concepts.

1. They just never considered the idea of a "revealed" religion or of theology in the way that we think of these things.
2. They have always had the certainty that the stars are the suns of other planets, some of which have intelligent, spacefaring species. Thus the term "outworlder" appears repeatedly in fragments of writings so old that nobody knows where they came from.
3. "Ancients of Days Look Down" -- this is not, as some fans might readily assume, necessarily "ancestor worship" or even a tacit admission that there exists such a thing as "ghosts" or seances to speak to the departed. Although Vulcans don't have the faculty of prophecy, such a facility is not unknown to them. They take the existence of it for granted simply because their ancestors knew of species that did have it. Thus, the Vulcans of modern times have a traditional cultural concept of time unlike that of any human culture but explainable in terms familiar enough to humans. They believe that the actions of great importance done in the "now" are at that same instant known to the Ancients of Days -- those of the time of the beginning. That the success of the "current" endeavors of the Ancients is concretely exemplified by these important moments of the "now" and that by "invoking" the Ancients of Days, they can encourage them to perform the actions which will result in this "now" in which the important event is taking place.

We learned in "City on the Edge of Forever" that in the St universe, reality is not immutable. Edith Keeler's not dying wiped out the Enterprise, even though her not-dying was caused by a member of the Enterprise's crew. If this is the way time is, and if the Vulcans have known this all along, then it makes sense to assume that the invocation of the Ancients of Days is merely the act of informing them that the ultimate results of their actions were beneficial, or at least useful to the point of continuing the race. It says, "We are well enough satisfied with this reality. Don't do anything that will wipe us out." And this is not any sort of mystical plea to any sort of god. It is a recognition of a functional reality. It works in the pragmatic universe. It recognizes the power that the mind holds over reality, or that some minds hold over reality.

4. The oldest cultures of pre-historic Vulcan history scattered over the planet and isolated for thousands upon thousands of years nevertheless show a remarkable coherence of structure, values, beliefs, and languages. They are by no means identical or even mutually intelligible, but there is a recurrence of patterns that seems unlikely in unconnected tribes. By the time these similarities had almost disappeared, they already had the kataytikhe on the scene and mixing things up by marrying across tribal lines and taking their memories with them to share.

LIVE LONG AND PROSPER IN PEACE AND DIVERSITY:



Jacqueline Lichtenberg

ZYETO:

"The fetters of Logic are the price of freedom"

from the Book of Joys

"Humility is undignified; boasting, illogical."

from the Book of Logic

"As infinity is composed of the infinitely minute, Eternity is composed of the ever-changing
nows."

from the Book of Fragments

"If thy wife is thy chattel, thee is her slave."

from the Book of Life

"The wisdom of the father is the treasure of the grandson, but who is to enrich the orphan?"

from the Book of Sources

"Fill thy coffers with the wealth of reality and eschew the poverty of illusions."

from the Book of Imperatives

"The duty of the present is the past-duty of the future. Ignore this duty and it is as if
thee dies without living."

from the Book of Books

"The Kaytaytikh lifts the Kraith that the future may drink of the past."

from the Affirmation of the Continuity

"May you live long and prosper greatly."

from Surak's Construct

MAY YOU LIVE LONG AND PROSPER:

In connection with doing Star Trek fandom justice in the book I'm writing, I would like to ask you to tell me a story.

I would like you to tell me about how you discovered fandom, how you felt about your first exposure to Star Trek (when it was and how it came about), and then I'd like you to tell me how your involvement with Star Trek has affected your life and your relationship with your family.

Also, tell me a little about yourself; age, ambitions, education, current projects and try to analyse what Star Trek means to you... how do you explain that meaning to other people and how do they react when you say you write Star Trek stories (or whatever you do re Star Trek.)

How do you react to fanzines and Star Trek fiction? Does the prospect of getting a new 'zine make you rush through your day's work? Does it put a new perspective on that daily mail delivery? Does your heart race? Do you jitter from foot to foot? Do you grab the mail and run off into a corner like a dog with a new bone? Do you habitually stay up till the wee hours of the morning reading fanzines? Have you ever skipped a class or missed an appointment because of reading a zine? Do the Star Trek fan-written stories linger with you after reading like the shows did? (Did they?)

Can you give me some idea of the intensity of your feelings about Star Trek fandom, and how these feelings make your behavior different from that of "normal people"?

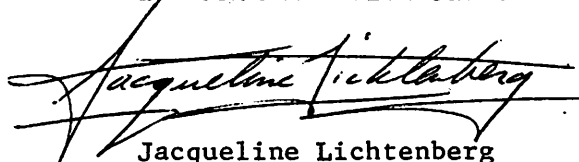
Are you involved in any Star Trek organization? How did you first encounter the organization? How did the organization start? What have the friends met through it meant to you? How has it changed your life-style (if at all)? Have you had any personal contact with other Star Trek fans? Tell me of your first meeting face to face with other fans.

What is the funniest thing that has ever happened to you in Star Trek fandom? If you dare, tell the most embarrassing thing and/or of the most heartwarming incident. (you may tell of other people here.) Do you know of anybody who has had an intense emotional experience connected with Star Trek fandom?

How did you discover the segment of Star Trek fandom that you are most interested in? Does Star Trek fandom seem bewilderingly complex to you? How big do you think it is? How would you go about initiating a friend into Strekdom?

I would like the answers to these questions as soon as possible.

IN PEACE AND DIVERSITY:



Jacqueline Lichtenberg
9 Maple Terrace
Monsey, New York 10952
12/22/72

"For if a man leaves another's questions unanswered, it is as if he had turned him away from his door into the Vrem deserts to die of thirst among the hidden waters."

from the Book of Sources *

KRAITH CREATOR'S ROSTER

11/27/72

The following is a partial list of Kraith Creators and Kraith Critics. Since the Kraith Critics have begun to write stories into the Series, I will not attempt to differentiate (some of them seem to be on the verge of changing sides, and one person can argue either side).

Ruth Berman, 5620 Edgewater Blvd., Minneapolis, Minnesota, 55417

Editor of T-Negative, publisher of the first Kraith story and of the main series. She wrote the first Kraithlet written by someone other than Jacqueline, and has since written a second one. Both stories are sharply focused, well-taken criticism of Kraith.

Anna Mary Hall, Derby, Indiana, 47525 (that's enough address)

Anna is one of the most exciting writers to appear on the ST scene, and her addition to Kraith has certainly demonstrated her talent.

Carol Lynn, 11524 Nashville, Detroit, Michigan, 48205

Editor of Kraith Collected and the Kraith Creator's Manual. Along with Margaret & Laura Basta, Carol has the distinction of being one of the first Kraith Interpreters, people whose dogged pursuit of Kraith concepts has qualified them to work independently.

Deborah Goldstein, 17511 Ohio, Detroit, Michigan, 48221

One of the most enthusiastic Kraith readers, and co-editor of the Kraith publications. Also an enthusiastic fan of the SIME series, and a budding Kraith author.

Laura Basta, 8043 Pinehurst, Detroit, Michigan, 48204

Editor of Babel, and possibly the best writer currently turning pro. Definitely someone to watch closely.

Pat Zotti, 5003 Tyrone Ave. #5, Sherman Oaks, California, 91403

Editor of The Voyages. Pat has created an alter-Amy for the Kraith Series and plans a series of perhaps as 6 short stories regarding Kraith-Amy and Ssarsun, and McCoy's ultimate future in the Kraith Series.

Lori Dell, 147-12 35th Ave., Flushing, New York, 11354

Lori is writing a magnificent story regarding the reason why the Trantu was sent out. Her story bears directly on many of the important plot developments of Kraith. She's also developing Vulcan Children in depth.

Doris Beetem, 4161 W. Eastman Ave., Denver, Colorado, 80236

Editor of Eridani Triad. Doris has written several vignettes onto the Kraith background. Although the events of her stories cannot be accepted into the Series proper, they might have occurred in an alternate Kraith universe, and they are certainly of interest to any Kraith reader. Maybe she will write into the series next time. Cheer her on.

Joyce Yasner, home: 140 Cadman Plaza West, Brooklyn, New York, 11201

One of the hardest working Kraith Critics, Joyce has pursued the definitions

of the definitions and refined her objections repeatedly until the insights gained have been of utmost benefit to all of us. We hope to bring you at least one essay and possibly a story by her in the near future. She's got plenty to say.

Rusty Hancock, 4111 Vernal Pike Road, #175, Bloomington, Indiana, 47401

Rusty was slaving away at a Disaffirmed-type story when she finally got KCI. She says she stayed up till 4:30 AM reading Kraith Collected, and the next day dashed off a Kraithlet which we hope to bring you eventually. She's working deep in Vulcan history, at the time of the first kataytikhe. Very exciting.

Sondra Marshak, 946 Kenilworth Pkwy., Baton Rouge, Louisiana, 70808

The best has been saved for last. Sondra became interested in Kraith obliquely, looking for material on Kirk and the Kirk/Spock relationship. She was dissatisfied with Jacqueline's treatment in the early stories, but hung in there until she begged a copy of "Spock's Nemesis" in manuscript off Jacqueline. It took many months of wheedling, cajoling, and conniving to get her to reveal herself for the superb writer she is. She made some additions to Kraith V which should further Kraith's reputation for being controversial. She is co-authoring a book on Star Trek fandom with Jacqueline, and she has consented to co-author several SIME novels during the next few years. Jacqueline wishes to take this opportunity to inform Sondra that she has earned the title of Kraith Interpreter. As the Kraith literature piles up, it gets harder and harder to earn that title.

In addition to the above 11 contributors, there are several people who have expressed an interest in writing some Kraith but who have not yet done so. Therri Moore, Linda Lawson, and Jeannie Peacock are three of these. There is a rumor that one other person is actively working on a Kraith story or two, but that person hasn't declared him/herself yet. [ed. since the above was written the ranks of the creators have swelled to 18. I'm pleased to welcome Robbie Brown to the ranks as #18.]

It is simple to join the Kraith Creators. All you have to do is to create some Kraith, send it to Carol Lynn or Debbie Goldstein, with a carbon to Jacqueline for the master files, and you are a Kraith Creator.

ZYETO:

"Let the Ancients of Days see the results of their handiwork and thee will reap of thy grandchild's harvest."

from the Book of Imperatives

"Why do the dwellers of Vrem endure the hardships scant distances from plenty? It is said they cultivate the Bloom and the madness never comes."

from the Book of Fragments

RECOMMENDED READING

by Jacqueline Lichtenberg

Kraith did not arise in a vacuum. It is a systematic application of well-known science fiction motifs to the basic ST format. The following is not necessary reading, but it would be both informative and enjoyable for the Kraith Creators (and others) to read these works, keeping in mind all the elements of Kraith.

FICTION --

Marion Zimmer Bradley: the entire Darkover Series

A glossary of the Darkover Series appears in Masiform D #2

SWORD OF ALDONES -- Ace F153

THE PLANET SAVERS -- Ace F153

STAR OF DANGER -- Ace F350

THE BLOODY SUN -- Ace F303

THE WINDS OF DARKOVER -- Ace 89350

THE WORLD WRECKERS -- Ace 91170

and any others. A new Darkover novel is due soon.

E. E. (Doc) Smith: the Lensmen Series. Recently reprinted in paperback.

These two Series form a postulate base for the Kraith Series. Those of you who study them may see similarities that I have not spotted. Therefore, comments addressed to the Creator's Manual would be welcome.

NON-FICTION --

Toffler, Alvin, Future Shock. The concepts of this book form an elementary reality on Kraith Vulcan.

Ostrander, Sheila and Lynn Schroeder, Psychic Discoveries Behind the Iron Curtain, Bantam #Q6581, \$1.25. The Kraith Vulcan medical practices are derived from this book.

Hall, Edward T., The Silent Language, Fawcett books, M545, 95¢.

Basic concepts of cultural awareness, and some primary clues to the meaning of LOGIC IS BEAUTIFUL, as well as to the structure of tsaichrani.

In addition to the above, I direct your attention to all the John W. Campbell editorials in Analog. Through the years, Campbell discussed many Kraithish concepts, especially the Legions of Vulcan premises.