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KNOW -ABLE

No.7



Perdita

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KNOWABLE is a science-fiction and fantasy fanzine published at irregular intervals by John and Perdita Boardman, 592 16th Street, Brooklyn, N. Y. 11218. It is available for trade, letter of comment, contribution, subscription (25¢ per issue or five for \$1), because you are mentioned herein, or for any other good reason. You are getting this issue because

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Mark Owings reports the founding of some new fan clubs:
 The Burroughs Bibliophobes, c/o Jerry Jacks, 4203 Labyrinth Road, Baltimore, Md. 21215
 The Order of Thoth-Amon, c/o David Ettlin, 3424 Royce Avenue, Baltimore, Md. 21215
 The Friends of Sauron, and The League of Nodens, c/o Mark Owings, 3731 Elkader Road, Baltimore, Md. 21218
 Membership is solicited from those who dislike, respectively, Burroughs, Howard, Tolkien, and Lovecraft.

RELATIVITY IN FACT, FICTION, AND FRAUD - II.

by John Boardman

The special theory of relativity, which brought mechanics and electromagnetism into agreement, requires that the laws of physics have the same form in all inertial coordinate systems. (An "inertial coordinate system" is one in which no body is accelerated unless a force is acting upon it. This implies, from Newton's first law of motion, that a coordinate system moving with a uniform velocity with respect to an inertial coordinate system is also inertial. The term "frame of reference" is sometimes used instead of "coordinate system".)

If the laws of physics are to be invariant upon going from one inertial frame to another, time and distance cannot be measured in the same way in the two systems. If their relative velocity is v , and the direction of v is chosen to be the x -direction, measurements of time and position in the two systems are related by the equations:

$$x' = \frac{x + \beta ct}{\sqrt{1 - \beta^2}}$$

$$z' = z$$

$$ct' = \frac{ct + \beta x}{\sqrt{1 - \beta^2}}$$

$$\beta = \frac{v}{c}$$

$$y' = y$$

What measurements, then, are the same in both frames? The reader may calculate $c^2t^2 - x^2$ and determine that it is equal to $c^2t'^2 - x'^2$. This quantity is called s^2 , the "proper time". It is the same for every inertial frame from which it is measured. We shall here consider only situations for which s^2 is greater than zero. It can easily be seen that $s^2 = 0$ implies motion at the speed of light, and $s^2 < 0$ is the physically unreal case of motion faster than light.

If the rate of change of x , y , and z is measured with respect to s rather than with respect to t , the motion of a body is given in terms of its "world velocity" u rather than the ordinary velocity v . Just as ordinary velocity has components in the x , y , and z directions, world velocity has components in these directions and in the fourth, time direction.

A similar generalization holds for Newton's second law, that the rate of change of momentum of a body equals the force acting upon it. The Newtonian and relativistic versions of this law are, respectively:

$$\frac{d}{dt}(mv) = F$$

$$c \frac{d}{ds}(mu) = K$$

The former equation has vector components in 3 dimensions, and the latter has vector components in 4 dimensions. The quantity K is called the "Minkowski force", after the brilliant mathematician to whom we owe much of the compact formulation of special relativity.

Knowing how s is related to t , the Newtonian force law can be rewritten:

$$\frac{d}{dt} \left(\frac{mv}{\sqrt{1 - \beta^2}} \right) = K \sqrt{1 - \beta^2}$$

$$(u = v / \sqrt{1 - \beta^2})$$

$$u_4 = c / \sqrt{1 - \beta^2}$$

is still a 3-vector equation, and represents three of the four components of the relativistic form of Newton's second law. If no external forces act on the system, momentum is conserved, just as in Newtonian mechanics. We must therefore re-define momentum, and relate the Newtonian force to three of the four components of Minkowski force, as follows:

$$F = \frac{dp}{dt} = \frac{d}{dt} \left(\frac{mv}{\sqrt{1-\beta^2}} \right) \quad p = \frac{mv}{\sqrt{1-\beta^2}} \\ F = k\sqrt{1-\beta^2}$$

Let us assume for simplicity's sake that the world velocity and the Minkowski force lie in the same direction. (The results we will obtain also hold for the more general case.) Then, if both sides of the relativistic version of the second law are multiplied by u , we have

$$u \frac{d}{ds} (mu) = \frac{d}{ds} \left(\frac{1}{2} mu^2 \right) = \frac{Ku}{c}$$

But, as can easily be seen, $u^2 = c^2$, a constant, and since the time-like component of the world velocity is $c/\sqrt{1-\beta^2}$, we have:

$$Ku = \frac{Fv}{1-\beta^2} - \frac{K_4 c}{\sqrt{1-\beta^2}} = 0 \quad \left[K_4 = \frac{F\beta}{\sqrt{1-\beta^2}}, \frac{d}{dt} \left(\frac{mc}{\sqrt{1-\beta^2}} \right) = K_4 \right]$$

But Fv is the rate at which work is done on the particle, or rate of change of kinetic energy. Therefore the kinetic energy of the particle can be defined as

$$T = \frac{mc^2}{\sqrt{1-\beta^2}}$$

If $v = \beta c$ is small compared to c , this expression can be expanded as

$$T = mc^2 + \frac{1}{2}mv^2 + \dots$$

The second term is the Newtonian expression for kinetic energy. The first term is known as the "rest energy", the energy the body possesses when it is not in motion.

The idea that mass could be equivalent to energy in this fashion was first thought to be a mathematical consequence of Einstein's reformulation of mechanics, without physical significance. But when Lord Rutherford split the nitrogen atom in 1919 he found that the masses of all fragments after the reaction was less than the total mass before the reaction, and that this loss of mass corresponded according to Einstein's formula with the gain in kinetic energy of these fragments.

The subsequent development of atomic energy has been based upon this conversion of mass into energy. The opposite process, conversion of energy into mass, has also been observed; a gamma ray with sufficient energy will transform itself into two electrons of identical masses and opposite charges. At present, sources of atomic power are capable of converting only a small fraction of their fuel into energy.

In theory, a spaceship could convert mass into driving energy and thus attain a velocity close to that of light. But, in addition to this energy, reaction mass would be needed. With momentum suitably defined, the conservation of momentum still holds, and a small amount of mass would still

have to be expelled in one direction in order to propel the spaceship in the other.

Thus, three changes of mass take place: mass is converted into energy in the ship's engines, mass is expelled to the rear with a high velocity in order that the forward momentum of the ship may increase, and as the velocity of the ship approaches that of light, the ship's own mass will increase. The first of these processes obeys $E = mc^2$, while the second and third are consequences of the conservation of momentum as this principle applies to high-velocity motion of both the ship and the exhaust. No matter how m and c change for the ship and its exhaust, the quantity $mc/\sqrt{1-\beta^2}$ remains constant.

From this principle it is possible to calculate the mass ratio (ratio of initial mass of ship plus fuel to final mass of ship after all the fuel is used) of a ship which expels the exhaust at a velocity v_0 and is designed to achieve a velocity v . For Newtonian and relativistic mechanics respectively, these mass ratios R are:

$$R = e^{\frac{v}{v_0}}$$

$$R = \left(\frac{c+v}{c-v} \right)^{\frac{c}{2v_0}}$$

Confusion has been rife in science-fiction about the meaning of the increase of mass with velocity. In The Star Kings, Edmond Hamilton supposes that the mass gained by a fast spaceship can be converted into energy to make it go yet faster - faster than c , in fact. Hamilton seems to have believe that this increase of mass with v - which follows from the definition of relativistic momentum - is added in the form of a lump of extra mass which can be put to any desired use. In fact, this mass increase is a consequence of the fact that kinetic energy depends on both mass and velocity. As velocity approaches its maximum, further added kinetic energy cannot increase it, so it has to go into increasing the mass instead. This is also the answer to the Heinlein juvenile of a few years back who, when told about the relativistic limitation on v , wondered what would happen if you brought a spaceship up to a velocity near that of light and then gave it 6 g's of acceleration. You would find yourself with a not much faster, but considerably more massive, spaceship.

Joe Gibson fell into this same trap in the June 1963 issue of his fanzine G². He says, "The real problem is that mass-approaches-infinity business on the other side of the equation $E = mc^2$ -- which means, as your ship approaches the speed of light, its mass goes skyrocketing right where that time shrinks -- and the power you need to move that ship any faster...goes right up with its mass."

This statement confuses the conversion of mass to energy with the mass-increase (expressed on the previous page as a momentum-increase, which is technically a little more precise). Having confused these two kinds of mass change, Gibson goes on to assume that only a rocket whose mass is totally converted into energy could approach c . This confuses the near-total conversion which an efficient atomic engine would get, with the term "total conversion" implying that all the mass of the spaceship becomes energy. Or, to use a more humble

example, the engines of a wood-burning steamship can be improved until they get almost total conversion of wood into ashes; this does not mean that the entire body of the ship must be chopped up and fed to the engines.

Having brought the steam engine into the discussion, we may as well use it to illustrate the difference between physics and technology. Much research in engineering went into the improvement of the steam engine in the late 18th and early 19th centuries; the idea, of course, was to get the greatest possible efficiency for a given boiler temperature. Some technical progress was made towards this end. But in 1824 Sadi Carnot, a member of a French family which has produced almost as many great scientists and public figures as the Darwins, demonstrated that there was a theoretical upper limit to the efficiency of the steam engine, or any other cyclical engine. The laws of thermodynamics placed limitations upon efficiency that no amount of clever designing of engines could overcome.

The laws of relativistic mechanics place similar limitations upon interstellar drives. Gibson's remark that "men have never built any engine they didn't keep tinkering around with, trying to improve, especially if it doesn't work too well in the first place" is perfectly true, but cannot be used to argue around basic physical laws which place limitations beyond the power of total combustion and friction-free engineering to remove. No technical perfection can make the words "a million miles a second" or "five hundred degrees below zero" or "magnetic monopole" anything but meaningless sounds.

CONTINUED IN THE NEXT ISSUE

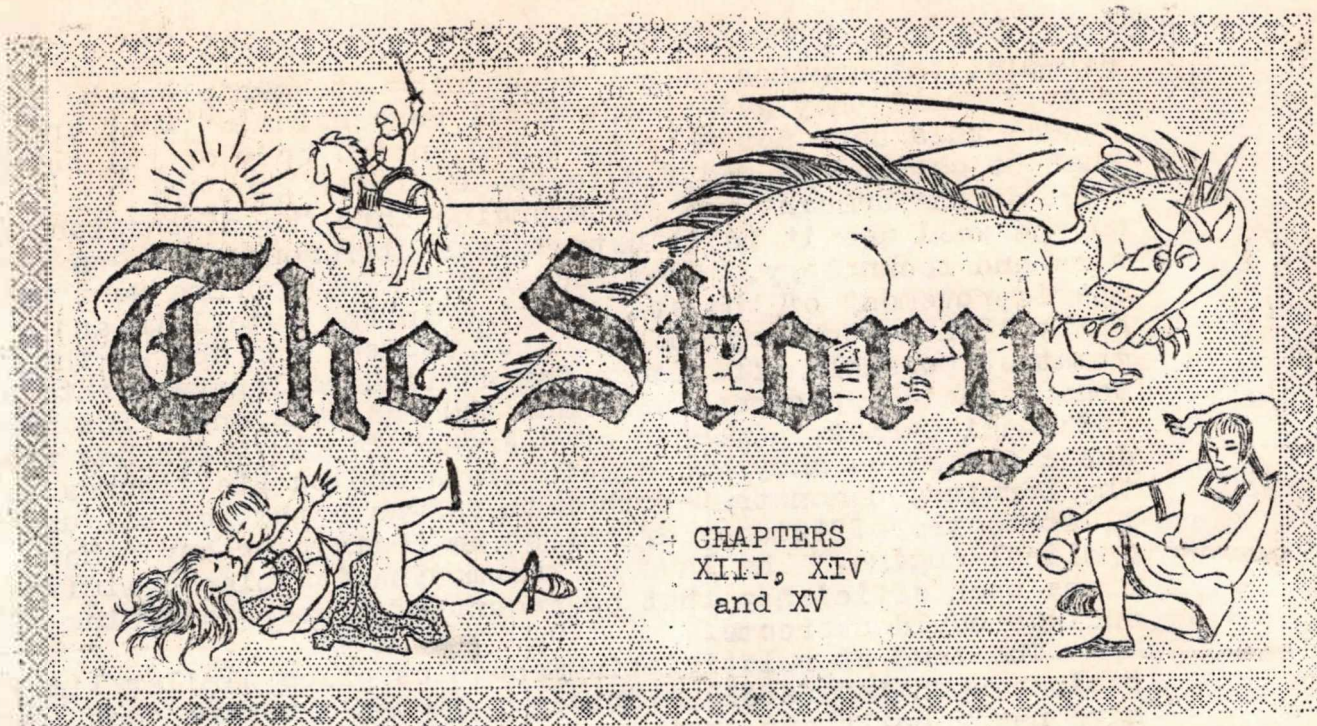
THROUGH HILBERT SPACE WITH SWEET FANNY ADAMS - IX

In 3009 Fanny Adams visited the planet Texas Plus in the Piper-McGuire system to buy breeding stock for her ranch on Widemos. She decided to buy the planet's biggest bull, Champion Quinbus Flestrin Boondoggle; however, the local cattle magnates were accustomed to doing business on a cash basis and were reluctant about extending her credit for an installment purchase of the animal. By using considerable persuasion and a down-payment which almost exhausted her supply of ready cash, Fanny finally closed the deal and left with the bull. Accompanying the beast was its handler, a semi-literate cowhand named J'ben. J'ben made no effort to conceal his contempt for a cattle buyer who did business by credit.

While en route back to Widemos, Fanny noticed one day that a container of the heavy water used for fuel had been broken open. Furious, she asked J'ben what had happened.

The bull's attendant waved laconically at the animal, whose muzzle was dripping. "Water is in Credit Bull!"

(See p. 29)



SYNOPSIS

Sir Tinly the Purest and his squire Dumbert are off on a quest to the Old Wold, to slay the troll Yog-Thuthuthoth. On the way, they stop at an inn, where they meet the bestial slave dealer Foulbrutis. Among his slaves is a stalwart young man named Deedah, whom Foulbrutis claims to be the son of a barbarian king named Conan. Foulbrutis whips Deedah into unconsciousness, and Dumbert, stricken with pity, buys the slave. The slave dealer then tells him that his new purchase is a murderer and a warlock.

Accompanying Sir Tinly and his squire is a poor old sot of a dragon, who pleads with Dumbert to arrange a match for him with Sir Tinly. The giant Grootulbore is about to foreclose the dragon's lease on his cave and evict his family unless the dragon pays up the back rent, which includes several knights. The dragon has already kidnapped a princess, hoping to lure knights, but no one will fight him because his fires have gone out from too much boozing.

CHAPTER XIII

by John Boardman

Seeing that the sun had once more come out, Sir Tinly the Purest strode from the dark, low-ceilinged inn into the new-washed sunlight. Resolution imprinted upon his noble brow, the knight awaited his squire, who had gone to the stables to fetch him his armor, his lance, his war-ax, and his huge white warhorse Puritas. At his side hung his great broadsword Pudeur, with which he had slain the giant Borborygmus, the Viking chieftain Olaf Loudsnore, and the

fire-breathing Welsh dragon Llwlillyllllwp, who had terrorized the western countryside, slaying all those who could not pronounce his name! Nor had these been the only evil beings to fall before the Pure Knight; although he was yet a young man, his many doughty and chivalrous deeds had caused him to be ranked next only to the King's and the Queen's Champions among all the knights of the kingdom. Now his lean and skillful hand clasped the hilt of his sword, for he was bound on the most serious quest of his career; at the end of his present journey stood the evil troll Yog-Thuthuthoth, who crept among the fogs of the Old Wold and wrought havoc among the human and animal inhabitants of that gloomy and forsaken part of the land.

Concerned with such serious matters, Sir Tinly paid no mind to the fact that his squire Dumbert had recently purchased a slave. So long as Dumbert performed his duties and learned his lessons, the knight paid no attention to his squire's doings; consequently Sir Tinly gave no thought to such matters as where the youth had obtained the large sum of fifteen shillings with which to make the purchase, or how the slave, without a mount, would accompany them on their journey, or what use Dumbert would make of the slave, when custom required that a squire personally serve his master, or how Dumbert could afford the not inconsiderable cost of feeding and clothing a slave.

However, these questions and others were racing madly through the squire's mind as he prepared Sir Tinly's gear for the resumption of their journey. Deedah stolidly followed Dumbert out the side door of the inn and towards the stables, and, without being ordered, the slave assisted in strapping the packs upon the backs of the steeds.

Next to Harlequin stood an ancient brown gelding of woeful aspect and pitiable condition. Scars covered his sides, withers, and neck, and there were open, untreated sores on his back! Dumbert realized whose horse this must be, and at once saw how he could settle Deedah's transportation problem.

"This is the horse of Foulbrutis?" he asked.

"Aye, master," replied Deedah. There was no trace of servility in his tone, nor was there irony or sarcasm; if anything, there was the slightest trace of amusement at the turn of fate which had given him a master uncertain of his new role as slave-owner, and four or five years his junior to boot.

"Then take it," said Dumbert. "You will need it to keep up with us on the road."

"Nay, master," said Deedah. "I ought not."

Dumbert was astonished, that a man who had killed ten men with his bare hands should balk at stealing a horse, especially from one who had treated him as ill as had Foulbrutis. "Why?" he asked.

"Should any mishap, planned or accidental, come upon Foulbrutis," the slave replied, "he takes it out on his slaves by treating them ten times worse. I could not bring such increase of their misery upon them."

"Very well," said Dumbert, somewhat chagrined that the slave had not only disobeyed the first order he had given him, but had also justified his disobedience. "Then why not simply go back into the inn, come upon him unawares before he

can get to his whip, and kill the scoundrel where he sits?"

The thunderclouds of anger gathered on Deedah's brow. "Aye, kill Foulbrutis I mean to do," the slave declared, "but his death will not be the deed of a moment. The time is not now; when it comes, he will not have a sudden death, nor a quick one, nor a pleasant one."

Impressed by Deedah's wrathful eloquence, Dumbert worked in silence for a while. Then, surveying the stables to see whether any further equipment remained to be packed, he hit upon an idea.

A huge hulk was slumbering in one corner of the stables. Dumbert walked over to it, seized a scaly appendage, and tugged upon it vigorously. The hulk stirred, shook itself, stretched, yawned, scratched itself, and staggered to an upright position, revealing itself to be the dragon.

"Wake up!" Dumbert cried. "We're leaving!"

"Aye, aye, young sir," said the dragon sleepily. He slithered out of the stables, bumping his head and his half-folded wings on the low beams as he went.

"There's your mount, Deedah," said Dumbert. "Climb on his shoulders and we'll be gone."

"Nay, I pray you, young sir," pleaded the dragon. "I am old, weak, and infirm; I cannot carry on my back so stalwart a man as he."

"Two nights past," said Dumbert, "you carried a human being on your back, and not only carried her, but flew."

"Please, young sir, repeat it not," the dragon moaned. "Should the news ever return to my wife, I would rather be slain, and my hide hung in the king's dining-hall." He sank his head to the ground, clasped his claws over it, and drooled great dragon-tears.

"Then straighten up and carry him!" ordered Dumbert, impatient at the beast's servile and spineless attitude. The Dragon lurched to his feet, wiped his face with a small haystack, and stood ready to be mounted.

"Get on, Deedah," called Dumbert. "There's a mount such as no slave ever rode before!"

Despite his wounds, Deedah placed one hand on the dragon's withers and vaulted lightly upon his back. Dumbert led Puritas and Harlequin around to the front of the inn; Deedah and the dragon followed. As Sir Tinky donned his armor with Dumbert's aid, and, clinking and clanking, mounted Puritas, Deedah glared fiercely ahead from his seat atop the dragon.

"Oh, the ignominy of it all!" groaned the monster.

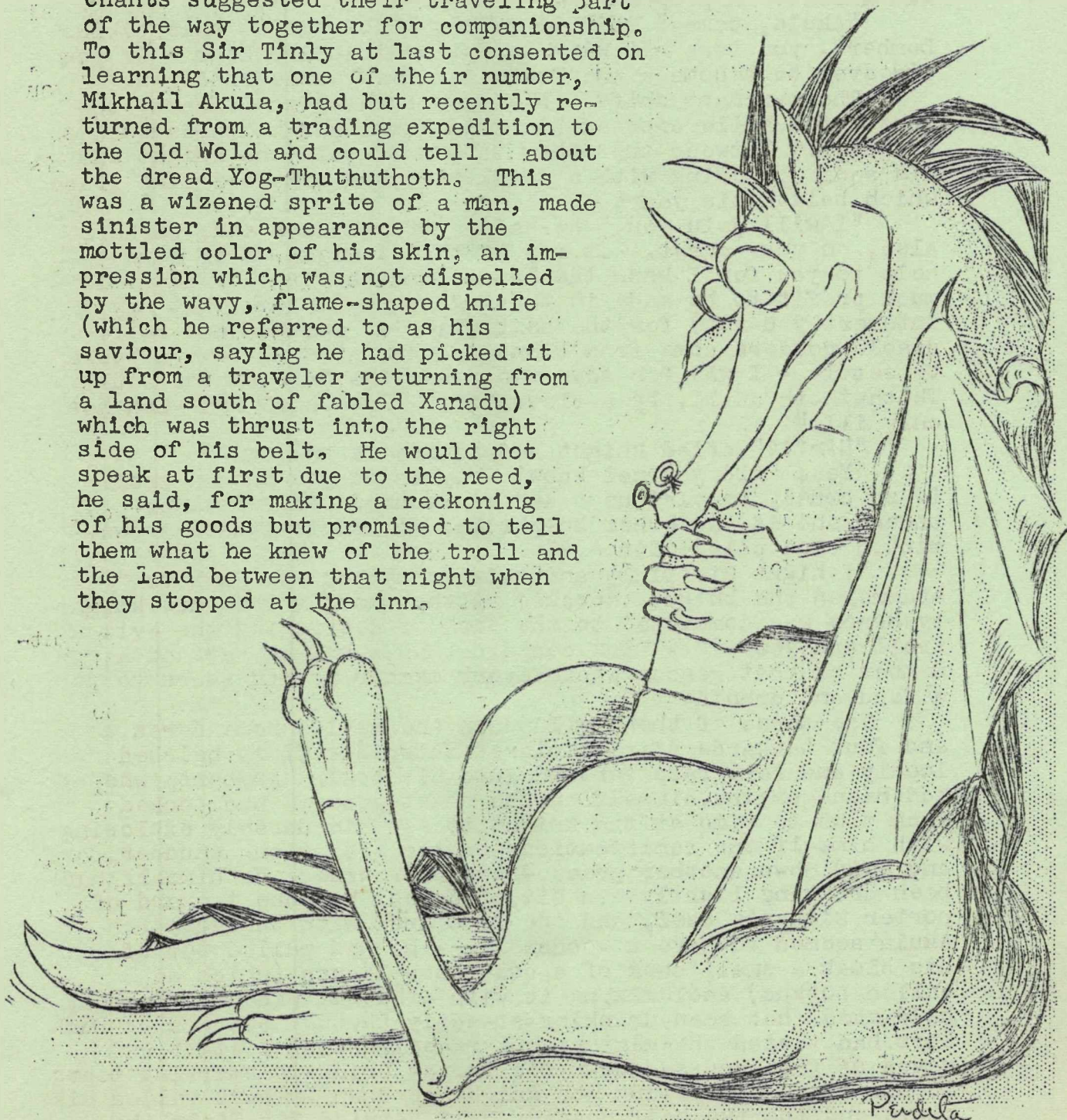
"That I, once a bold young dragon with fine prospects before me, a fire-breather and man-scarer beyond compare, should sink so low. Now I am, alas, a poor, besotted lizard, not able to snort so much as a puff of smoke; I have become a drunkard, a chaser after loose women, a beast so lowly that no knight will risk his reputation by doing battle with me. And now, O Old Serpent below, the crowning humiliation; I am forced to be a mount for a slave - a slave!" Head low, the dragon plodded miserably behind Sir Tinky and Dumbert as they set out north towards Kingsly.

CHAPTER XIV

by Tom Seidman

It was a two day's journey to Kingsly and, on reaching the main road from Canterbury and Shelton to Kingsly and on to the port city of Mare-foie from which they would set sail for Terre Pieux, so undeserving of its name, and the Old Wold, they fell in with a commutative group of "merchants" who shuttled back and forth between Shelton and Kingsly selling their goods at the fairs in towns along the way.

As they were heading in the same direction the merchants suggested their traveling part of the way together for companionship. To this Sir Tingly at last consented on learning that one of their number, Mikhail Akula, had but recently returned from a trading expedition to the Old Wold and could tell about the dread Yog-Thuthuthoth. This was a wizened sprite of a man, made sinister in appearance by the mottled color of his skin, an impression which was not dispelled by the wavy, flame-shaped knife (which he referred to as his saviour, saying he had picked it up from a traveler returning from a land south of fabled Xanadu) which was thrust into the right side of his belt. He would not speak at first due to the need, he said, for making a reckoning of his goods but promised to tell them what he knew of the troll and the land between that night when they stopped at the inn.



The trip was hot and dusty and it was with gratitude that they arrived at the hostel, the Tabard, in Southwark where they were to stop for the night, it having been recommended as the best inn in the town by the famous Drunken Hines.

Envisioning a hearty meal of good English beef washed down with tankards of spiced porter and finished off by the fire with a pint of hot mulled ale they sent Deedah and the dragon around back with the horses and the merchants' great oxcart while they marched in to eat. Travel had been slow due to the oxcart and they were not surprised that the meal was already in progress.

"Akula, come," said Sir Tinly, "join me at this table. Dumbert, you too. It will be better that you hear - if you are ever to become a knight it is time you learned how."

The merchant shifted his eyes briefly to Dumbert, the ghost of a smile crossed his thin lips, and he threaded his way deftly between the other tables to join the knight and his squire, moving with a quick step and almost feline grace which belied his years.

"I will join you," he said, "for dinner and, perhaps also, on your quest. It may be that I might be of some help to you for I know the land - and the troll. There is much profit to be made in trading there (though that may interest you not) for the best grade of dhragk and sulfadiable powders come from thence. Then, too, I have a score to settle - I was for some two years the prisoner of foul Thuthuthoth until, by a clever ruse, I escaped and wish her only ill."

"Her???" cried knight and squire as one man.

"Yes. Did you not know? Why think you the troll is so cruel, so vicious - and so secure? (For monster though she is, no other knight has wished to attack a "woman".) You pale! Sir - ?"

"I hight Sir Tinly and this is my squire, Dumbert," stammered the knight, shocked at the thought that his knightly honor was committed to the task of destroying the evil troll and yet - ... How could he, as a knight, attack a member of that gender whose every member he had sworn to defend and uphold?

The three of them fell to on the meal. Some Jerez and four tankards of rich claret later Sir Tinly belched loudly and fell face forward into his bowl. Dumbert, who had been gorging himself on the roast goose, had looked from time to time at the knight to see him dazedly exploring with himself the ramifications of the situation, shudder, and swig down another great draught of wine. He himself had been drinking lightly - a bit of Jerez, but one tankard of porter with his beef, and one of claret with the goose. Akula seemed to have a wooden leg - he had pulled out of his cloak a small cask of a colorless liquor (which he called fotkha) and, mixing it with a bit of wine (for color, he'd said) had been drinking steadily through the meal. Dumbert had tasted the mixture but recoiled with a start as waves of fire coursed down his throat bringing smarting tears to his eyes. On seeing the knight go down Dumbert called his slave and the two half pushed, half carried Sir Tinly the

Purest to his bed.

"Oh, that I should have come to thish - to fight (hic) thish female (sic) monsher - break shiv-al-rsh pledge - or onner oth' hand go back - retreat ignominishly. 'Shtoo much. Leggo me. I'm gone out - air- fresh air - 'at'sh wh' I need - fresh air - I'm goin' out - 'n' when I go I'm tying a - a shprig 'v misheltée onner back of my cloak 'n' you know wha' you c'n do. Damned sons of witches, sired by filthy, slimy garter snakes - leggo me. I'll shleep it off by mörning, you..... Oh, for a shimple dragon-fight!"

CHAPTER XV

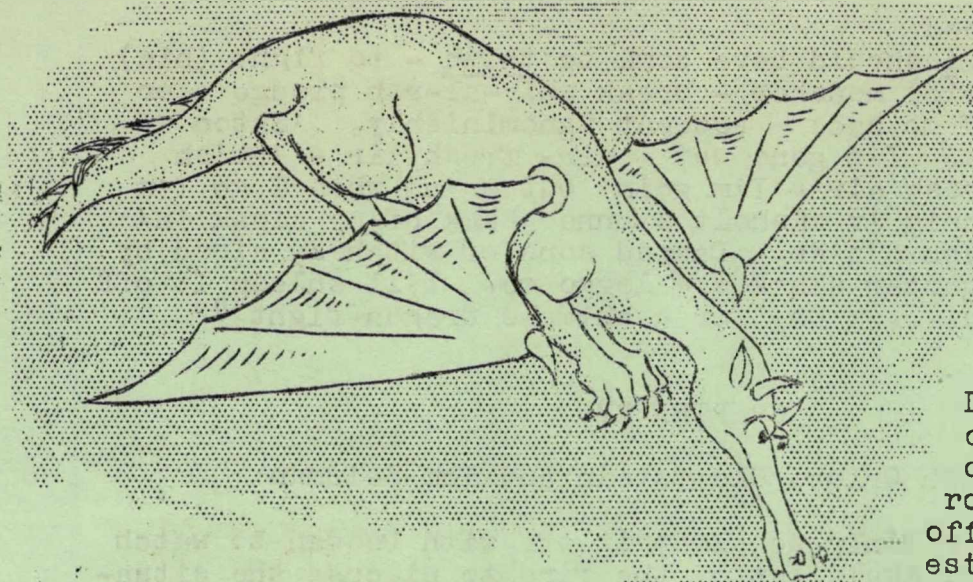
by Judith Orlove Glattstein and Tom Seidman

Leaving Sir Tinly to sleep it off with Deedah to watch him, Dumbert and Akula sat by the fire to discuss the situation. The merchant asked him of his life, laughed at the right places, inquired closely of the life at court, but, withal, maintained an aloof manner till at last he laughed, clapped Dumbert on the back, and said:

"I like ye, lad, so I'm going to tell you about me. Not many people have heard my story, not that it is so interesting, but points of it are, shall we say, valuable to certain people. Ah yes, many things have happened to me. Like the time that barbarian, Conan, attacked my ship as we landed at Z ngara to get some supplies. I should like to get my hands on him, or that son of his I've heard of. I would broil them head down over a slow fire and roast him. Have you ever seen him? A tall, strong man, with black hair and blue eyes. No man can stand before him in battle and he and this son are said to be as alike as two peas in a pod." Mikhail Akula's voice shook and he ground his teeth. - It was plainly evident that he was upset. "That accursed barbarian stole my goods. Spices and slaves, one a princess, no less, from Zamora, steel, silk, and gold from Hyrkania and hides and wool from Shem, profits in the millions and this barbarian, the leader of the black corsairs, comes and steals it all from me!"

He stared into the fire, lost in his hatred. Dumbert was uneasily thinking of Deedah, and Sir Tinly? He was crawling down the drain pipe in his nightgown (pink with white stripes) with Deedah in hot pursuit. Being running in his drunkenness he had forced a spare on Deedah. Thus the slave was clad in a full length nightgown with high collar, long sleeves, and a rosebud pattern. This hindered him somewhat. Sir Tinly was looking for a dragon to fight.

Meanwhile, the dragon's wife was rather disgusted. Slave all day and work herself to the bone for that princess! She'd show her! She'd get another lady and put her in the cave. Two females in distress ought to attract more knights. She was flying over Kingsly thinking of that haughty, snooty princess. It was then that she spied two lovely princesses, one striped like a barber pole and the other in roses, Sir Tinly and Deedah, running full tilt down the street in their nightgowns. That did it, she was a bit near-sighted. As



she was partial to roses anyway, she caught Deedah up in her claws and flew over to the cave. On reaching it she threw Deedah inside, closed up the cave with some rocks, and flew off to the nearest beauty parlor cave resort for dragons. She needed a manicure!

Sir Tinly meanwhile missed his pursuer. He skidded to a halt and looked around. Nothing was in sight but an inn.

"Might as well look there," he grumbled to himself. "Imagine leaving me like that. I'd a fought him in a minute." He clapped his hand to his side and grasped his sword. At the inn he stopped for a drink or three. The dragon had, naturally, also wandered into the place; since all the inmates had left at the sight of him he was behind the bar mixing drinks and drinking them. Sir Tinly came in and started drinking. Four bottles of rye, three of Scotch, and a cask of mead between them, they looked at each other. Sir Tinly looked closer. "Hey," he shouted, "you're a dragon!"

"I am, am I?" hiccupped the dragon. "What is a dragon? Not related to a wagon I hope?"

"No, it has scales..."

"So does a fish. Is a fish a dragon?"

"No, it is not, and it has a tail..."

"A lizard, they have scales and tails, tails and scales, it rhymes!"

"Rails, pails, scales, tails, they do rhyme, don't they. With claws."

"That doesn't rhyme," interrupted the dragon, "that goes with paws, flaws, roars." Here the beast gave a good example.

"That's what a dragon is, stupid."



It has scales, a tail, claws, and roars and breathes fire. You check except on the fire. Try?"

Sir Tinly leaned forwards. The dragon leaned back and tried. No luck. Sir Tinly sighed. "I did so want to fight a dragon," he exclaimed mournfully.

"Have a drink?" said the dragon.

"I will," said Sir Tinly, and drank. The inn was well stocked with whiskey, liquers, and other assorted rotgut. It lasted them till the next morning when they fell asleep on each other's shoulders.

CONTINUED IN THE NEXT ISSUE

Of the four authors who have thus far appeared with chapters in The Story, Tom Seidman is the third to have subsequently attained a Ph. D. We offer this information for the benefit of those wishing to write future installments. Tom is presently with the Boeing Scientific Research Laboratory in Seattle, where his abilities as a mathematician contribute in some modest part to the famous Military Industrial Complex.

Judy Glattstein gave birth on 15 December 1963 to her and Paul's second child and first son, Seth Randall Glattstein. Judy has promised to contribute further chapters to The Story in the future.

KNOWABLE #8 will include Chapters XVI and XVII by John Boardman. The last chapters of The Story to be written so far will appear in KNOWABLE #9; the authors are Morris Pfeffer and Paul Glattstein, both of whom once proposed to Judy and one of whom succeeded. Anyone wishing to carry The Story forward from that point should now volunteer to do so. As is our tradition, each author has complete freedom to do as he likes with The Story and its characters.

OPERATION AGITATION is the collective name under which all publications from this address are sent out. The following OPERATION AGITATION publications have appeared since KNOWABLE #6:

48 GRAUSTARK #16	53 GRAUSTARK #20
49 GRAUSTARK #17	54 GRAUSTARK #21
50 POINTING	55 PILLYCOCK #8
VECTOR #19	56 GRAUSTARK #22
51 GRAUSTARK #18	57 KNOWABLE #7
52 GRAUSTARK #19	58 GRAUSTARK #23

This is

O	At
P	Great
E	Intervals
R	This
A	Appears
T	To
I	Inflame
O	Optic
N	Nerves

PILLYCOCK is circulated only through the Cult, an amateur press association. For information about GRAUSTARK, see p. 17.

POINTING VECTOR is a newsletter of personal views and commentary on just about anything, and is available at 25¢ per issue, or 5 for \$1. It is published on the same schedule as KNOWABLE (i. e., irregular). The next issue should be out around the beginning of May.

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SPLASH!

or

WHERE DID THAT CONTINENT COME FROM?

by John Boardman

Something over one-half of the Earth's surface is covered with six continents of various sizes, composed mainly of rock which is classified under the general heading of "granite". (To a geologist, in fact, "continent" and "granite" become nearly synonymous terms.) But granite rocks are completely absent from the rest of the Earth, including the Pacific Ocean area.

An early explanation for this anomaly was the theory that the Earth and the Moon once constituted a single body. When this body was still a slowly congealing liquid, so the theory ran, solar tides and the body's period of rotation on its axis caused a resonance effect which tore it into two unequal parts. The Pacific basin was supposed to be the region from which the Moon was torn, taking with it the granite surface layers.

This theory may be refuted independently on astronomical and geological grounds. The Earth-Moon system doesn't come close to having the same angular momentum as this hypothetical proto-planet. And, if the early Earth was liquid at the time of separation, the surface granite should have flowed into the area from which the Moon was torn, covering the heavier basaltic rocks.

Prof. William Donn, in a talk at CCNY on 26 March 1964, suggested an alternative hypothesis. He suggests that the Earth was originally basaltic in the uppermost layer, and that the continents are the remains of some six or seven planetoids that crashed into the Earth at some time in the very distant past.

This theory is not compatible with the Wegener hypothesis of continental drift, which claims that the continents originally separated from one large mass and drifted apart. This theory originated from the observation that the shorelines of the continents appeared to fit into one another, particularly the Atlantic shorelines of Africa and South America, and of Europe and North America. But if the edges of the continental shelves, the true limits of the continental land masses, are considered rather than the shore lines, the Wegener hypothesis becomes less tenable. And it has not been possible to explain why the granite continents should float on the underlying solid basaltic rock.

Donn points out, in support of the collision hypothesis, that Australia is about the size of the planetoid Ceres, largest of the minor planets. This would date the collisions during the early development of the solar system, when the larger protoplanets were attracting the smaller ones by gravitational force into aggregates which became the planets of today. (Tidal forces raised by Jupiter prevented such an agglomeration of the protoplanets between the orbits of Mars and Jupiter, so they remain as planetoids to this day.)

The fact that the continents lie , in general, on the same side of the Earth, would lead to the supposition that the collisions took place about at the same time. One might suppose a swarm of planetoids moving together which, on a perihelion passage, were pulled out of their orbit and into a collision course by the much larger Earth. The Earth may have picked up its moon in the same way, although the small eccentricity and inclination of the Moon's orbit argues against a capture hypothesis. In all probability the Moon is a sister rather than a daughter, natural or adopted, of our planet.

The Earth and the captured continents need not have been liquid at the time of their collision. It was formerly believed that the early planets were at very high temperatures, but they need not have been to account for their formation out of smaller protoplanets. The high temperatures of the Earth's interior are a consequence of the enormous pressures to which matter is subjected there. Below the basalt layer, in fact, is a liquid core subject to convection currents whose influence on the geology of the Earth's surface is now being investigated.

Above this basalt layer, causing it to be depressed by their weight, are the granite continents. It is all the "earth" that the non-scientist knows, from his everyday experience. The man who speaks feelingly of his "native land", and of all the emotional connotations that "earth" carries, may in fact be speaking of what is not of Earth at all, but an accretion from outer space.

* * * * *

ALTERNATE TIME-LINES

One of the oldest plots in science-fiction is the "alternate time-line", a hypothetical alternate history of mankind in which some great event went otherwise and changed the course of subsequent history. The interest of science-fiction fans in alternate time-lines has recently taken the form of interest in the board game "Diplomacy".

"Diplomacy" was invented by Allan B. Calhamer, and may be purchased for \$7.50 from any large department store (in New York, F. A. O. Schwarz) or from Cornwall Corp., 48 Wareham St., Boston 18, Mass. The game board represents Europe as it was in 1914, and players take the part of one of the major powers of that year. There are two moves per "year", and players use their armies and fleets to occupy neutral and enemy supply centers. They may make and break alliances with each other. The first player to get a majority of all forces on the board wins.

"Diplomacy", like chess, lends itself easily to postal play. Players send moves to a Gamesmaster, who compares the orders and, in a bulletin, publishes to the players the consequences of the moves. They communicate among themselves to arrange strategy of alliances, and publish press releases in the Gamesmaster's bulletin.

One postal "Diplomacy" game has been completed, two more are in progress, and a fourth is now being organized. The
(continued on p. 25)

THINGS THAT GO BUMP IN THE MAILBOX

ROBERT A. W. LOWNDES, 15 Haverstraw Road, Suffern, New York: "Science Made too Easy" was a delightful series. ...and I'm hooked with The Story. Eventually, it will pall, no doubt, but I can take quite a bit more. The new series on math ((Physics!)) is somewhat over my head (the equations, anyway) but the prose part is interesting enough. However, the real reason for this letter, in addition to subscribing, is to assure Leonard Bailes:

You are not alone, pard. I enjoyed Glory Road, and do not hesitate to say so. It is not my idea of a great novel, and perhaps not Heinlein's either, but in it's ((sic)) picaresque vein, I found it a very enjoyable one. It bubbled along in just about every way (as a picaresque novel should) and the ideas and notions were interesting, stimulating, and often amusing. ((Like, for example, the idea that anyone who criticizes America's Viet Nam policy ought to get his face smashed in.)) One expects to find one's biases and prejudices ((sic)) rubbed the wrong way in a picaresque tale -- something's wrong if they aren't.

After how many years of reading both published, unpublished (and, in some cases, one hopes never published) science fiction, I've long passed the point where I expect or demand that a given tale offer more than entertainment. Now and then one does, and is greeted with joy (Glory Road did; that it did not offer as much more as some other novels doesn't seem particularly relevant). For the most part, I haven't encountered so much as entertainment!

((Ah, those were the days! Remember when you printed one of my stories in Double-Action Detective Magazine without bothering to tell me you'd accepted it? I had to drop you a line suggesting legal action before you paid me.))

The "what's wrong with science fiction?" question was raging when I first began to become a fan back in 1932-3. I wouldn't go so far as to claim that s-f of the 30's was better than s-f of the 60's; only claim that I can (and do) re-read the old issues of Amazing, Wonder, and Astounding with some enjoyment. (and no illusions about literary value) while I cannot re-read s-f of the 40's and 50's with but rare exceptions..

((I would largely agree with you, perhaps putting the apex of s-f in the early '40's. I don't think Astounding ever had a better year than 1941. Even science-fiction shows how America's cultural and social advances of the '30's were stopped short by the war and never resumed afterwards.))

Personally, I'm sensitive to the physical appeal of an s-f or fantasy publication, and only two today satisfy me on that score -- so that I want to pick them up. Those two are MOF and Analogue ((sic)). MOF I read each issue; with Analogue, I like the feel of the magazine, and enjoy Jawn's editorials and Schuyler Miller's book department. Hardly ever read anything else. When JWC puts his ideas into editorials, no matter how much I may disagree, I find him stimulating and enjoyable to read. But the sort of stories he wants no longer interest me. There was one exception last year: Young's, "Knight" tale -- somewhat loused up by the Campbell approach, but not irreparably so. And, this

season, we have Garrett's "magic" novelet ("The Eyes Have It", Analog, January 1964 -- read it!) -- which he wrote for amusement, without the faintest idea that JWC would possibly be interested.

The result of all this is that while I can enjoy well thought out criticism of contemporary s-f, I cannot participate in the argument, for the most part. Perhaps there are better stories in Galaxy, If, and Worlds of Tomorrow -- too bad, the magazines' appearances repulse me, although Galaxy is neat in its way. (After many years of forcing myself to read it, I've decided that I just do not care for its way.) Amazing, I must confess to having found readable in the past few years -- but nothing about it makes me want to buy the next issue, although I did enjoy Sam Moskowitz's articles, until the editorial interference in them became too obvious. Fantastic and the British magazines never appealed.

WALTER BREEN, Box 277, Berkeley, California 94701: In general, it looks as though at least some mysterious ikons had to be explained because of their being found amongst others spelling out more or less recognizable religious scenes. Of course what people read out of an ikon is going to depend largely on their current preoccupations. If, as Graves thinks, the Hebrew religious reformers were concerned largely with purging Judaism of any trace of "idolatry", i. e., heathen worship and specifically worship of the Goddess, one would expect them to interpret as many as possible in terms of their oral traditions and of the stories written in the Torah. Similarly, whoever were collecting the stories later redacted and published by Sir Thomas Malore as "Le Morte d'Arthur" probably assumed that the ancient ikons they saw were connected with those same stories. The same ikons probably were ascribed many different meanings at different times. ((Fine -- but where are some of those ikons?)) What the "real" meanings were is -- insofar as that question is meaningful -- will depend upon the preoccupations of the people who used them first; and right now I think Graves has made a strong case for his reconstructions of these.

As a rough parallel, 30th century archaeologists coming across religious statues and paintings of the last few centuries of our own era may well conclude that some Europeans and western Asiatics worshipped a Mother Goddess and her Divine Child, and that other Europeans and inhabitants of the North and South American continents worshipped a crucified king who may possibly have been called INRI. And they will not be too far from the truth, at that...

George Cowgill's sketchy references to the history of social evolutionism deserve an article, at the very least; a mere letter of comment isn't enough space to clarify the confusion he is recalling to us. ((See my article in KNOWABLE #5, and letters of comment by Cowgill and Breen in #6 on anthropology and ikonotropy.)) I may be able to provide such an article, at the risk of making KNOWABLE look vaguely like an issue of Kipple in its next few lettercols. Suffice it for the moment that the "selective advantages via symbiosis" notion isn't obvious to anyone except the limited number of followers of Kropotkin and Ashley Montagu, who for the most part are neither sociologists nor biologists; and

that the so-called social darwinism of Herbert Spencer & Co. (a theory which Darwin would have viewed with horror) was pretty much inevitable in that atmosphere of Eternal Progress, with or without the spurious respectability its use of Darwin's name added.

I suspect that general recognition of the survival of Neanderthal and Cro-Magnon man to the present day in certain European stocks would kill the Hobbesian view of our pre-homo sap. ancestors as apelike, more primitive than Australian aborigines, etc.....Traces of both the Neanderthal and Cro-Magnon racial stocks are still identifiable in some otherwise ordinary family lines. (So much for poor P. J. Farmer's "The Alley God".) ((Have there been any signs of those strange European Negroids, the Grimaldi men?)) Imagine the well-known Malvina Hoffman sculptured reconstructions of these racial stocks, lighten the complexions a bit, give them haircuts and shaves, and put them in modern clothing -- and you'll find vague resemblances to any number of modern people of French, German, and Italian ancestry. ((And Greek. There was this family that lived down the hall from us in Washington Heights...))

And so if the legends of ogres and trolls refer to pre-homo sap hominids, they probably have to do with giant races such as the pre-Neanderthal type producing the Heidelberg Jaw, or something else not even preserved in known fossils. Come to think of it, even a Neanderthal might have looked ominously huge to a small-boned stock like that very common in the Middle Ages...But we needn't assume even this much: in ancient art, human figures were drawn or engraved in larger or smaller size according to rank; and if in some Egyptian or Minoan ikon...a priest was depicted wearing the totem animal's mask, and with his smaller attendants surrounding him, this sort of thing might well have given rise to later legends of strange animal-headed men invading and terrorizing the populace.

((I wonder how many racist partisans of the Noble Blond Nordics have stopped to realize that the regions inhabited largely by blonds in modern Europe are the same, allowing for the retreat of the glaciers, as the regions inhabited by Neanderthals in the Old Stone Age!))

GEORGE COWGILL, 99 Hancock Street, Cambridge 39, Massachusetts: What Walter Breen says in KNOWABLE #6 about iconotropy as an explanation of the forms myths have taken sounds quite reasonable as explanation on one level. That is, I very much agree that pictorial representations which had some specific meaning for their makers often come to the attention of others who don't know the original meaning, and find them either nonsensical or make up their own meanings. Or it can happen with other material, as in the case of "nonsensical" nursery rhymes which are in fact derived from very pointed political satires of a few generations ago.

((How many Catholic mothers sing "Mary, Mary, Quite Contrary" to their children, not knowing that the song was originally an anti-Catholic satire directed against Queen Mary I of England?))

But I think there is another kind of explanation, in no

way contradictory or in an "either/or" relationship to the first, but rather that which asks, and seeks to answer, "Why do some old pictures of unknown meaning seem uninteresting or just "nonsensical", while others suggest some kind of story to those who see them?"; or "Why is such-and-such an interpretation given, instead of some other?". After all, what people read into "ikons" whose original significance is lost will depend upon what the ikon shows, but it will also depend on what things are important to the observers...Different people or different cultures may read quite different things out of the same ikon, very much as different people get different things out of the same TAT picture.

To me, a satisfactory "explanation" of a myth would involve not only pointing to earlier material for which it provided an interpretation, but would also involve examining why one interpretation was appealing and some other possible interpretations were not.

Lest I be misunderstood, I'm not accusing anyone of ignoring this second approach to understanding myths; I'm just mentioning that it's there. It may well be that this has been explicitly recognized by Graves and others.

I think some of these notions are very applicable at the present day. An often-mentioned and "classic" example are the interpretations people have made of the principle of Natural Selection, where Herbert Spencer and others used it as the takeoff point for Social Darwinism and an ideological justification for ruthless competition and "survival of the fittest" in business; while today, in our more cooperation-minded society, it's just "obvious" that selective advantages can be given by cooperation or even symbiosis as well as by competition....Or the extremely prevalent tendency to take a very Hobbesian view of our pre-Homo sapiens ancestors as nasty and brutish; apparently displacing onto them an ethnocentrism which it's no longer respectable to exercise against live people. As re this last, it's in fact a little hard to say why people like myself sometimes entertain the possibility that not all Neanderthals, Pekin people, etc. were slobs and louts; except that maybe once you're in the frame of mind to notice that a lot of propaganda about modern races is unfactual, it becomes hard to say where you should stop applying this principle.

But it's really quite fascinating (at least to me) to note the way that our ancestors, whose appearance we infer only from the bones, are reconstructed mostly as dirty, unkempt, and in need of shaves (actually, since I suspect that the hairiness of Europeans and Australians is a primitive trait, I've a hunch that terrific beards were very common among the men, but a beard would never do on a reconstruction, for then we couldn't be reminded of the receding chins), and very crude in their food and sex habits, and with quite abominable taste, if any aesthetic feelings at all. It's no wonder that the suggestion is sometimes made that legends of ogres and trolls etc. derive from vague recollections of Neanderthals, for I think that in the last century "cavemen" have come to play very much the same role in the popular imagination that the ogres et al. did at an earlier date. Today I think this picture involves a lot of unproved assumptions that can only impede understanding of the past.

I'm not going to the other extreme and arguing that all was Rousseauian sweetness and light and unspoiled innocence; I get irritated and suspicious of that attitude also. My own bias, quite strong, is for imagining that our ancestors exhibited a much more complicated mixture of attractive and unattractive traits than those they're usually depicted with.

I saw the Russian version of Don Quixote a while ago... and it leads me to wonder if any inhabitants of Fandom ever get to the point where they feel they really are someone they've read about, and set themselves up against ESPers, BEEMs, android robots, etc etc. I exclude UFO sighting as too commonplace.

((Why, yes. There's this California fan, Don Quijol, who believes that he is a valiant knight, riding out to save Fandom from a hairy ogre. He is accompanied by a squire named Sancho Benza. But unlike the knights of yore, he believes he has a Mission to save young boys from the ogre. When last seen, he had charged with all his might at a White windmill whose blades threw him into San Francisco Bay. Reportedly he plans to recruit a Table Square at the nearest police precinct, ride down on the Pacificon, and force all present to take vows of chastity and obedience. Being fans, they will not need to take a vow of poverty.

((I hope I have not too seriously hampered the discussion between Cowgill and Breen on anthropology, by printing their last letters in reverse order.))

JAMES ASHE, R. D. 1, Freeville, New York: The theory that Campbell has somehow lost touch with the SF readers does not seem to me to ring true. From what I have been seeing in the fanzines, it would appear that nobody has a clear idea what happened. My own theory is that Campbell is no longer editor of ASF. This is probably connected with the recent sale of the magazine to Conde Nast, which seems to specialize in meaningless publications for an empty-minded public. I did not succeed in cancelling my subscription until I finally returned an issue unopened which did what my letters failed to do.

We are looking forward to more and better art work in your zine. It helps the mood. I see lots of books full of unillustrated detail and a few pictures sometimes are a real relief.

EARL E. EVERS, Apartment 4-C, 268 East 4th Street, New York, New York 10009: From the last two KNOWABLE covers I get the impression Perdita should have been chosen to illustrate The Dragon Masters. Does she by any chance draw the dragons for the backs of leather jackets?

Topical covers and illustrations are all too rare in fanzines. I hope you keep on using them.

Relatively speaking, regarding faster-than-light drives, the question is not whether c is the Absolute Universal Speed Limit, or even whether Space, Time, or c is absolute, but whether there is an absolute limit on human knowledge and discoveries.

...I have an objection to your relativity series. All your major points seem just as involved and ambiguous as my

deliberate spoof above. I would just as soon see the series dropped as no one who needs it can possibly understand it. You make a statement and it seems perfectly obvious and self-demonstrating to you because you immediately think of the mathematical background which supports it. I on the other hand see only a bunch of words which can be boiled down into "This is true because This is True". So what's the use?

Take your explanation of the "Horse and Carriage" paradox for example: "The apparent paradox is resolved if the reader notes that only the forces exerted on the carriage determine how it is accelerated. Forces exerted by the carriage, including the force on the horse, do not enter into the relation between the dynamics and the kinematics of the carriage." This actually explains nothing - it tells what does happen, but doesn't tell why or how. ((That's all that physics, or any other science, is. The proportionality of force to acceleration in Newton's mechanics is a description of what the real external physical universe is like. There is no apparent reason "why" kinematics and dynamics are related by $F = ma$ rather than by some other law.))

...Even if faster-than-light drives are a proven impossibility I don't think SF writers should stop using them. The vast majority of SF readers, or general readers don't know or care if such drives are impossible. ((Would you have science-fiction a party to the dissemination of a false idea?)) Besides, cutting them out of SF stories would mean the end of interstellar travel in SF, and that would virtually kill SF as it now stands - how many of our classics are based on rapid interstellar travel? Solar system stories are getting rarer and poorer every month, and Generation Ships are a special case not practical for most plots. So we're stuck with the FTL drive, possible or not. ((No. We're stuck with the Lorenz-Fitzgerald contraction. What's so terrible about that?))

"Biology Made Too Easy" is the best of that series so far and one of the better humorous fanzine articles I've read this year. For all its shortness it sure hits at everything in biology that's hittable at....

The Story is pretty funny in spots, but like any effort of this type, it's loaded down with too much crud. Why don't you call a moratorium on punnish names for characters? And too many of your satires on trite Sword and Sorcery devices are trite in themselves. And why in Hell allow Conan to be dragged in? ((You'll have to speak to Judy about that.)) You've not only destroyed your original mythos, which seemed to be Fairy-Tale England, and a Damn Good Background for S&S satire, but now all sorts other backgrounds are going to be dragged in too...

Your retort about Plato and Associates inventing Socrates made me start thinking about a certain (mythical?) conversation which took place at a drunken con-party Not So Long Ago:

"I think Fandom is about ready for another Big, Insurgent, Fannish Hoax."

"OK by me. How about a death hoax for..."

"Nah, death hoaxes're old hat. How about a life hoax."

"A life hoax?"

"Yeah, we invent a new fake fan."

"It's been done, but I guess we could do it again only better. But why invent a fake fan?"

"I didn't mean invent a fake fake fan. I meant a true fan who is really a fake."

"OK, OK. So we invent a fan. What sort of fan?"

"A super-fan."

"A super-fan?"

"Yes, a fan to end all fans."

"What do you mean?"

"Well first, we'll make him a college professor. Then we'll pub all sorts of different fanzines under his name, and have a few trusted comrades write tons of material for fanzines with his name on it."

"Sounds good. We make him super active and super-slannish. And super-fannish too - we'll have him write filthy verses for Amra and publish a Radical Political Journal for him, and have him write Feghoots with mathematical formulas for the pun."

"Sounds better all the time. So what'll we call this Fake True Slannish Fan?"

"Well, John Boardman sounds like a good name."

BERNARD MORRIS, 420 Memorial Drive, Cambridge 39, Mass.: The scientific folk/filk songs were the best part of the issue, especially the one on Gravity waves - Relativity or whatever it was on... Gilbert and Sullivan tunes always lend themselves to easy adaptation. I/we have, and are steadily increasing possession of, a large pile of psience type psongs... someday I will get around to printing up the whole stack. Someday.

The Froghoot brought loud groans from all who read it, which is as good a claim to greatness as any pun can hope for. However, I must point out that F = ma is merely a specific case of the more general

$$\sum_k \left[Q_k - \sum_i \dot{p}_i \frac{\partial x_i}{\partial q_k} \right] \delta q_k = 0,$$

where Q_k is the generalized force equal to $\sum_i F_i \frac{\partial x_i}{\partial q_k}$, and q_k is a generalized coordinate. This is derived from the Principle of Least Action, which assumes Nature is as lazy as man is.

BUCK COULSON, Route 3, Wabash, Indiana: I enjoyed the title of the "Eleven-Foot Poll" but... I don't think much of the idea, especially as regards the fan aspects. Producers of poor fan material get told their sins often enough without singling them out for special ridicule. (The pros, having been paid for the efforts, can expect severe criticism from some quarters and have the monetary cushion against it. The fans don't -- and there is no point in telling a fan that he's the "worst" -- or that his publication is -- except to make the critic feel important. There is a point in telling him that his work or actions are bad; he won't improve unless he knows that he needs to. But singling him out as the worst does no good for anybody. Admittedly, criticism doesn't bother me much, but I'm constantly being told that most fans are more sensitive than I am.)

You urge fans to send for both the Broyles and Pelz questionnaires. Now how about stating why?...I answered the earlier Broyles questionnaire -- I don't really know why because at the time I never expected him to publish it. I got the resulting booklet, spent an amusing half-hour or so skimming thru it and noting the examples of relative vanity (the fan who has had three stories published in fanzines, and who lists all of them in his biography), put the booklet on the shelf and have not referred to it since. Pelz doesn't even offer that much amusement in his questionnaire. So why bother with it?

GEORGE COWGILL: I wonder if any of the readers of KNOW-ABLE can furnish me with the words and/or music of the G. Johnstone Stoney Stomp, an old piece of music written to commemorate the man who gave the electron its name; about 1894 I think. I believe it's sometimes known as Agony in Stoney's Place.

...By the way, I think you would be interested in knowing that there is an organization, incorporated under the laws of the State of New York, known as the Society for Ethnopornography. It proposes to publish a journal known as Primitive Smut, but nobody knows when.

WALTER BREEN: What is the address of the Society for Ethnopornography, Inc.? ((I don't know.))

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ALTERNATE TIME-LINES (continued from p. 17)

players in a postal "Diplomacy" game have 2 weeks to arrange moves among allies, prepare any double-crosses they may have in mind, and mail their moves to the Gamesmaster. Although the game cannot be played efficiently without the board and pieces, at financial need the would-be player can get along with a rule book and a map. (Rule books are available @ \$1, and maps @ 4¢, from John Boardman, 592 16th St., Brooklyn, N. Y. 11218.)

The entry fee for the game now being organized is \$2; priority is given to entrants who have never before played postal "Diplomacy". Dick Schultz has volunteered to be Gamesmaster of yet another game if the number of entries to this one exceeds seven.

"Diplomacy" fanzines now available, at 10 issues for \$1, are:

GRAUSTARK, John Boardman, 592 16th St., Brooklyn, New York 11218.

FREDONIA, John Boardman.

Ruritania, Dave McDaniel, 10629 Ayres, Los Angeles, California 90064.

Worldip and Witdip, Bruce Pelz, Box 100, 308 Westwood Plaza, Los Angeles, California 90024

Tupenny-Ha'penny, E. Joseph Baker, 3056½ Leeward Ave., Los Angeles 90005

BOOKS FOR SALE

All books listed below are used, except Tolkien's, but many are in new condition. Books marked "*" are paperbacks. Several copies are available of books marked "#". Orders of \$1 or more are postage-free; include 15¢ postage for smaller orders.

- Baker: A Friend in Power. A novel of office politics on a university campus.....\$2.50
- *#Boardman & Glattstein: Science Made Too Easy. The popular series from KNOWABLE, now complete in one 'zine. Satire on the sciences.....15¢
- *Boyer: Nouveaux Jeux d'Echecs Non Orthodoxes. Collection of dozens of variations on chess, including 3-D and 4-D games.....\$3.00
- *Brunner: The Super Barbarians.....25¢
- *#Chase: Will Communism Conquer the World?,,,,,,FREE
- Creedy: The Next Step in Civilization. A utopian novel with Social-Christian orientation, placed in an imaginary land in the Andes.....\$1.00
- Dellin: The Real Soviet Russia. An "expose".....40¢
- *Evans: Man of Many Minds.....25¢
- *Gilbert: Electricity and Magnetism. A broad elementary text designed mainly for experimental physicists and engineers.....\$1.00
- Granville: Differential and Integral Calculus.....\$2.00
- #Goldstein: Classical Mechanics.....\$4.00
- *Humboldt Verlag: Illustriertes Wörterbuch. Topically arranged and copiously illustrated. Gives German, French, and Spanish translations for thousands of common objects and actions.....50¢
- Jauncey: Modern Physics. An elementary introduction to the new physics of the 20th century.....\$1.00
- #Jenkins & White: Fundamentals of Optics (latest edition)\$5.00
- *Jung: Modern Man in Search of a Soul.....80¢
- *Knight: The Sun Saboteurs; Wallis: Light of Lilith.....25¢
- *Leinster: Creatures of the Abyss.....25¢
- *#Lane: Defense Brief for Lee Harvey Oswald.....FREE
- Lentz: Towards a Science of Peace.....\$1.00
- *#Newman: The Quiddity of Herman Kahn and his Thermonuclear War.....FREE
- #Panofsky & Phillips: Classical Electricity & Magnetism..\$4.00
- #Sears & Zemarsky: College Physics (3rd & latest edition) This elementary physics text is used in many colleges and universities. No calculus.....\$3.50
- #Tolkien: The Adventures of Tom Bombadil.....\$2.00
- *Szilard: The Voice of the Dolphins and other stories.....75¢
- Unicorn Press: Everything's a Puzzle. Rebus collection...25¢

Also available: RUSSIAN SPY cards, certifying the bearer to be a genuine Russian Spy, entitled to all the rights and privileges thereof. ("Void if countersigned by Joseph Stalin.") Five for 25¢.

For subscriptions to GRAUSTARK and FREDONIA see p. 17.
For other OPERATION ABOLITION publications, see pp. 3 and 15.

HIGH FLY THE NAZGUL
The tune is "Green Grow the Rushes O".
Verses were written mainly by Los Angeles fans,
chief among them Dave McDaniel. "L" - Leader;
"C" - Countervoice; "Ch" - Chorus.

L: I'll sing you One, O!

Ch: High Fly the Nazgul, oh!

C: What is your One, O?

L: One for the One Ring, Lord of All, that was
destroyed by Frodo!

L: I'll sing you Two, O!

Ch: High Fly the Nazgul, oh!

C: What is your Two, O?

L: Two, Two, the watchful Towers, guarding over Mordor, O!
Ch: One for the One Ring, Lord of All, that was
destroyed by Frodo!

L: I'll sing you Three, O!...

Three, Three, the Elf-Rings;

Ch: Two, two, the Watchful Towers, guarding over Mordor, O!

....

((Other verses are sung to the same pattern.))

I'll sing you Four, O!...

Four for the Hobbits on their quest,

Three, Three, the Elf-Rings...

I'll sing you Five, O!...
Five for the Wizards from the West and
Four for the questing Hobbits...

I'll sing you Six, O!...

Six for the six Names of the King,
Five for the Wizards from the West and...

I'll sing you Seven, O!...
Seven for the Dwarf-Lords' Magic Rings and
Six for the Names of Strider...

Eight for the ancient Elf-Swords...

Nine for the Nine brave Walkers...

Ten for the Battles of the Ring...

((As taped by Dick Eney, Tuesday 3 September 1963.))

SCIENCE MADE TOO EASY appeared as a series in the first
six issues of KNOWABLE. This popular series of satirical
articles on the sciences has now been reprinted, and is
available for 15¢. It includes articles on physics, mathe-
matics, chemistry, and astronomy by John Boardman, and an
article on biology by Judy Glattstein.

A LITTLE LIST

Like two of the songs in KNOWABLE #6, the following verses were sung at the concluding banquet of a colloquium on the general theory of relativity which was held at Roy-aumont, France on 21-27 June 1959. Author unknown; tune obvious.

As someday it may happen that a conference must be planned,
I've got a little list, I've got a little list,
Of mathematical offenders who ought really to be banned,
And who never would be missed, who never would be missed.

There's the student from the provinces who's always asking why,
And who doesn't follow Wheeler but would rather like to try:
There's the pestilential nuisances who write for free preprints
And the often-quoted savant who hasn't done a damn thing since
And all third persons who on foiling tete-a-tetes insist
They'd none of them be missed, they'd none of them be missed.
I've got a little list, I've got a little list
And they'd none of them be missed, they'd none of them
be missed.

There's that nisi prius nuisance who just now is rather rife,
The confused cosmologist, the confused cosmologist.
And the quantifying braggart of uncompromising kind:
Let's put Schwinger on the list, let's put Schwinger on
the list:

All elders who smoke segars and puff smoke into your face,
And grizzled old philosophers and others of their race.
And all those who write microscopic formulae, like that
Those interminable questioners, who should instead have sat.
And innocent young physicists who haven't got the knack,
They'd none of them be missed, they'd none of them be missed.
I've got a little list, I've got a little list
And they'd none of them be missed, they'd none of them
be missed.

There's Ostrogorsky, Green, and Stokes and their apologists,
The conservationists, the conservationists.
And all seekers after true observables, such optimists,
The Hamiltonianists, the Hamiltonianists.
The people who use pseudo-tensors to define a mass
And ask you pers'nal questions like "What is your Petrov
Class"

And st st st and Whatshisname and Also...you know who
But the task of filling up the blanks I'd rather leave to you.
For it really doesn't matter whom you put upon the list:
They'd none of them be missed, they'd none of them be missed.

DISPLACEMENT CURRENT

by Prof. E. H. Green, Department of Physics, Brooklyn College
(Tune: Annie Laurie)

Ja-ames Maxwell's brains were
bonnie
'Round 1862
And they sang, "Hey nonny nonny!
D dot's a current, too!

The rate of change of D -
It's part of curl of B ,
And unless we add it to con-
vection
There's no continuity!"

THE COP IN THE HELICOPTER BEANIE

by John Boardman

Science-fiction fandom has always taken some pride in the wide variety of people who have taken an interest in the literature of fantasy and science-fiction, and who have been attracted into our little microcosm. At any Worldcon, you are likely to find yourself rubbing elbows with a female ex-Marine, a North Dakota wheat farmer, an Archbishop of the Old Catholic Church, one of Herman Kahn's megacorpse counters, an unreconstructed rebel who has since turned in her stars and bars for a black leather eagle, or missionaries for the gospels of St. Marx, St. Rand, or St. Priapus.

Thanks to the Pacificon II Committee, there'll be yet another type of fan this Labor Day weekend - plainclothes cops. And you'd better not try rubbing anything but elbows at the Con this year.

This all began in January, when the Pacificon Committee, otherwise known as Bill Donaho, circulated a series of charges, varying from unwarranted inferences through damaging innuendo to plain lies, accusing Walter Breen of child molestation. Having condemned him in advance, Donaho then conducted a private trial to expel Breen formally from the Pacificon and, hopefully, "to perform a surgical operation, separating Walter and fandom". (This last quote is taken directly from Donaho's slander sheet, "The Great Breen Boondoggle". This tissue of fabrications is now out of print, but pertinent excerpts appear in "The Loyal Opposition", described below. After each accusation Donaho makes the snide comment, "Walter is incredible".) Donaho tried to cloak this procedure with some respectability by graciously inviting Breen to attend with counsel and witnesses. Breen quite properly refused to admit the validity of any such

"Arriving at 980, I found Bruce Pelz busily running off the latest ProFANity on the LASFS Gestetner. We became friends -- inevitably -- and talked fannish matters far into the night..."

-- Walter Breen
Tesseract #2, p. 15
March 1960

kangaroo court by attending it.

The private trial is symptomatic of social disintegration. Such trials, held by self-constituted private authority, is the sort of thing that the German Vehmgericht and the American Ku Klux Klan did before undertaking terroristic acts. The terrorist "Stern Gang" (Lochmei Herut Israel) similarly "tried" Lord Moyne before assassinating him in 1944. Donaho and the Pacificon Committee have proceeded similarly to assassinate not a man, but his character. This should not obscure the parallelism.

The most recent attempt of the Pacificon Committee (Donaho, J. Ben Stark, Al ha-Levy, and Alva Rogers) to justify their action is the "Report from the Pacificon II Committee on the Cancellation of the Membership of Walter Breen".

Presumably it is obtainable from the Committee at P. O. Box 261, Fairmont Station, El Cerrito, California. A thorough refutation of Donaho's charges, and comments on what they may mean for fandom, is "The Loyal Opposition", written by over a dozen west coast fans and available from John and Bjo Trimble, 5571 Belgrave Ave., Garden Grove, California 92641.

Donaho has turned his accusations over to the local police. This will unquestionably mean that Pacificon II will be overrun with plainclothesmen, and woe betide the unwary fan who imbibes over capacity, permits impoverished neos to pitch sleeping bags on the floor of his hotel room, mixes a drink for a teen-ager, takes part in a poker game, shows too much skin at the costume ball, distributes a fanzine with four-letter words, strikes up a chorus of "The Captain is a Father to his Crew", brings to the Art Show a painting showing what satyrs do with nymphs after they catch them, or tumbles a femmefan not unequivocally married to him...all recognized fannish pastimes at WorldCons.

"Oh, the ex-communist or the homosexual is not important - these are just convenient symbols. What is important is the evidence of the deterioration and erosion of the tolerance that has been inherent in fandom since its beginning."

- Alva Rogers
Shangri L'Affaires #59
Nov.-Dec. 1961

Well, all the reasons why Donaho and the Pacificon Committee have made a grievous mistake are summarized in "The Loyal Opposition" far better than I could do it here. Suffice it here to make the following three statements:

(1) A Non-Vention will be held in Berkeley on Labor Day weekend. This will be the only Con in the Bay Area to which all fans will be welcome. It will consist of a number of parties and semi-formal programs at the homes of various Bay Area pros and fans. Details will be announced later.

(2) Fans are rallying to Breen's defense by contributing to the legal expenses necessary to stop Donaho's slanders. Your donations are solicited for the Walter Breen Defense Fund, c/o Jerry and Miriam Knight, 1522 Russell Street, Berkeley, California 94703.

(3) For East Coast fans who won't be able to attend the Berkeley Non-Vention, another Non-Vention will be held here at 592 16th Street, Brooklyn, New York 11218. We have scheduled this Non-Vention for Saturday 5 September 1964. For more details see future issues of KNOWABLE. This Non-Vention is open to any fan, regardless of race, creed, color, academic status, marital status, age, or adherence to any side of any past, present, or future fannish feud including Donaho vs. Breen, Moskowitz vs. White, White vs. Eney, Gemignani vs. Scithers, or Buck Coulson vs. the world.

Fans are urged to cancel their Pacificon memberships, to send Donaho a sharp note explaining why, and to spend funds earmarked for the Pacificon on one or more of the above-mentioned worthy causes.