

The Fatal Abstract
A Tutorial Farce in One Act
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Place: A Space Biophysics Lab in Los Angeles
Time: The Near Future

CAST

Bill	The Villain
Ken	The Hero
Judy	The Heroine
Bob	The Boss

Bill: Hello Ken, are you stuck with this, too? If there's anything I hate it's having to work on Saturdays.

Ken: Hi, Bill. Cheer up, it won't last too long; we've got some help [pointing at Judy.....]

Bill: Oh, what a typist! Well, great! [handing her some papers] Here y'are. I hope you can read my handwriting. And, ah, never mind the squiggly stuff, that's mathematics; I'll write it in myself.

Ken: Oh, Bill, I thought you knew Judy...She's not exactly...

Judy: Oh, that's okay, I don't mind. I'll be glad to type these.

Bill: Oh, you mean you're one of Ken's girl friends or something?

Ken: Bill, you can't just walk up to every girl in the lab and ask her if she's one of my girl friends.

Judy: Even if she is, huh, Ken?

Bill: Well, Judy, I'm Bill. I'm the systems engineer. I'm sure you've heard of me. And come to think of it, I believe I've seen you around the lab. Now about these abstracts, if you'll just type them up for me. Don't make any changes, just leave spaces so I can write in the equations...

Ken: Bill, Judy is a mathematician.

Bill: A what?

Ken: And the boss asked her to give us a hand. She happens to be very sharp at writing abstracts. In fact, the boss has her review most of the abstracts that are written around here before he checks them himself.

Bill: [flabbergasted] You mean, you're a mathematician? [To Ken] Well, I never saw a mathematician who looked like that!

Judy: What did you expect? Two heads?

Bill: But mathematics takes, ah...

Judy: Brains?

Bill: Oh, I don't mean that. But a mathematician who can write?

Judy: Yeah, that's almost as unbelievable as an engineer who can read, huh, Ken?

Ken: Okay, Judy, could we just get to work? What's the difference between an abstract and a summary?

Bill: There isn't any.

Ken: Judy? What's the difference?

Bill: I said there isn't any difference.

Ken: I'm not asking you, I'm asking Judy. Judy? Will you drop that a minute and tell me something? It says here they want a 50 word abstract and a 500 word summary. What's the difference?

Judy: [absently] Well in that case, one's ten times as long as the other...

Ken: Gee, thanks!

Judy: What? Why, what's the problem, Ken? I'm sorry. I was deep in my own here and I wasn't really listening. You want to know...?

Ken: The difference between an abstract and a summary. The formal difference regardless of length.

Bill: There isn't any.

Ken: Will you shut up a minute? Judy?

Judy: Ken, there is no generally accepted difference, but

Bill: Like I said...

Ken: Bill, I'm gonna kill you in a minute...."But..."

Judy: But some journalists and some symposiums make distinctions of their own, and they can be quite specific.

Ken: Well, this one doesn't say, except for the length. And why the heck do they want a 500-word summary, anyway? You'd think the abstract would be enough.

Bill: I'll tell you why...

Ken: Look, Bill, I'm asking Judy because I want her opinion. She has written or rewritten the abstracts for nearly all of the papers that have come out of this lab in the past couple of years.

Bill: Well, I'll be darned. Judy, I knew you were clever, but how did you get to be such a universal expert on everything? Tell me, so I can be one, too.

Judy: Bill, you're being unfair. They come to me for help on their abstracts because they're hard to do and I have a knack for it.

Bill: Well, where did you get this mysterious knack? Writing lab reports in some physics class?

Judy: In my freshman Journalism class.

Bill: Journalism? That's a new one. I thought you might say English class, but Journalism?

Judy: Sure. In Journalism I, you learn to summarize everything into one or two sentences, and in language that practically anybody can understand.

Ken: That sounds reasonable. When I took freshman English in engineering school, all the prof ever looked for was mistakes in spelling or punctuation.

Bill: When I took English all you had to do was take real short words and put them in real short sentences and you got A's.

Ken: I still want to know why the symposium people want a 500 word summary.

Judy: They probably want the 50 word abstract to put in their program, and the 500 word summary is to see if you've got something to say or not. In fact, some symposiums require 1500 word summaries now because they've been stuck with some lousy papers, and they want to make sure it doesn't happen again. What meeting is that one for?

Ken: I'm submitting this to the conference on spacecraft communication in Houston next spring.

Bill: Yeah, he's got a girlfriend in Houston...

Judy: Is that an IEEE meeting?

Ken: The IEEE Group on Aerospace and Electronic Systems.

Judy: That one? I heard that last year they received about five or six times as many papers as they could use!

Ken: Doesn't surprise me.

Judy: But that means you have only one chance in five or six of getting accepted.

Bill: Yeah, you should submit it to some cruddy little meeting like the one sponsored by the Engineering Writing and Speech Group...

Ken: Bill...

Bill: ...and they'll be so hard up for papers they'll have to accept yours no matter how stupid it is.

Ken: Bill, how is yours coming? The boss will be here any minute and he expects us to have a whole stack of them ready for his o.k.

Bill: Both of mine are finished. Here, I'll read them to you. [reads pompously, with a monotone:]

Abstract: An algorithm for the solution of partial differential equations representing the process in which a continuous time conditioned mean-variance nonlinear optimum filtering occurs is described. Operation with a digital computer is discussed. Certain iterative techniques are mentioned. Efficiencies approached are estimated. Subroutines are enumerated. Results are presented.

Judy: The boss isn't going to like that.

Bill: Why not? They allowed me 50 words and I did it in 49. You can't do much better than that.

Judy: What meeting is it for?

Bill: It's for the Southeast Region Annual Meeting on Interplanetary Communications.

Judy: Sounds like one of those cruddy little meetings you just recommended to Ken.

Bill: Oh no, not this one. There'll be lots of competition to get into this one. In fact, I'm submitting two different entries, to double my chances.

Ken: Why, where is it?

Bill: In Miami. Miami Beach, in fact.

Ken: Oh, that's where you go in January.

Bill: Well, where do you expect me to go in January, Fairbanks?

Judy: Did you say you had another one, Bill?

Bill: Yes, this one:

Abstract: A hierarchy of phase-averaged conditional error probabilities are calculated for an optimum filtering process which is continuous, time-conditioned, mean-variant, and non-linear. Methodologies are discussed. Equipments are evaluated. Techniques are considered. Efficiencies are estimated. Advantages are appraised. Alternatives are weighed. Results are postulated. Conclusions are hypothesized.

Judy: Readers are mystified.

Bill: Now that was only 48 words...What?

Judy: Colleagues are confused. Customers are confounded. Symposium chairmen turned off.

Bill: What do you mean, "turned off"?

Judy: I mean, if you don't tell them what you've actually done, instead of beating around the bush that way, they won't take your paper.

Bill: Why, you little fink! [seething pause] Judy, you're a real cute girl and all that, but you're way out of your field. I'm describing a serious paper here, and I don't expect you to understand it.

Judy: Well, that abstract describes your paper, but it should do much more. It should give the point, instead of all those vague promises. People who read that abstract will think you haven't got a point!

Bill: What do you mean, "vague promises"?

Judy: You say such and such is considered, is estimated, is discussed. You should be giving your results.

Bill: Oh no, Judy. You don't know how these things are done. You never give your results in the abstract. You give your results in the paper. This is a scientific abstract, not a newspaper story.

Judy: Bill, a hundred or even a thousand people may read your abstract for every one who will read the real paper. Why don't you just give them the point, right away?

Ken: I'd say you were right, Judy, but in most literature the abstracts just tell what the papers are about; they don't give the results.

Judy: Just because the world is full of stupid abstracts doesn't mean that we have to add to them. Do you know something, Bill? If you were Columbus...

Bill: If I were who?

Judy: If you were Columbus, and you had just discovered America, I know how you'd report it. I can just see the abstract of the report that you'd send back to Ferdinand and Isabella. [Picks up one of Bill's abstracts and improvises the following from it:]

“A Hierarchy of phase-averaged conditional error probabilities are calculated for determining the relationships between ocean depth, water sanity, and the mean number of monsters sighted per degree of longitude traversed. A three-vessel configuration is described. Methods of vessel configuration are discussed. Measures for suppressing mutinies are considered. Advantages of various routes are appraised. Results are hinted at. Period.”

Oh yes, and a footnote to all that would say,

“If your Royal Highnesses wish to know what was discovered with that money they can be obtained from the Department of Documentation in Madrid by submitting the proper requisition in quintuplicate..”

Bill: Ha ha.

Ken: In all fairness to Bill, Judy, I don't think he claims to have discovered anything that important...

Judy: Well, he's found something new, hasn't he? What about it, Bill? This first one of yours, with the big algorithm. Can't you at least say what you accomplished? I mean, didn't this thing work, this algorithm of yours?

Bill: Oh, I haven't really run it yet. This is just a plan, after all. I'll work it out when it's accepted.

Judy: You're kidding!!

Ken: You mean you're submitting an abstract representing work you haven't even done yet? No wonder it's so vague!

Bill: What do you mean? This thing of mine is no vaguer than the one we cooked up to submit to that meeting in Paris next spring.

Ken: That's not quite true. The thing we submitted to the Paris meeting described instrumentation we've actually built for the Mars landing craft and the Venus excursion module. And besides, Judy wrote that abstract and you didn't even see it; you weren't here when we had it mailed.

Judy: Say, Bill, I'd still like to know something about that algorithm you mentioned in your first abstract. You are kidding, aren't you? You do have it pretty well planned out, don't you?

Bill: No, you're going to do that.

Judy: Oh, I am, am I?

Bill: Sure. You should get a thrill out of contributing to a paper of mine. And just think, between us we've got about a dozen abstracts submitted, including the ones we're doing today.

Ken: What if they all get accepted? We'll have to spend all our time running around to different symposiums!

Judy: Saaaay, who's going to write all of these? You don't suppose I'm going to sit here and do your math analysis for you while you two go galavanting around the country, do you?

Ken: Oh, it won't be that bad, Judy. The boss isn't unreasonable, and probably, you will get to go on a trip of your own, someday...

Bill: Yeah, that's right. Everybody does his share of the work. Remember how we worked out that plan for the Paris meeting?

Judy: By the way, when is that meeting in Paris?

Bill: ...We divided it into thirds. Somebody or other is doing the math model, Ken is doing the communications equipment, and I've agreed to do the systems analysis. It's a snap.

Judy: Okay, but when is this meeting?

Bill: Oh, the middle of April, the fifteenth, in fact. Why?

Judy: Oh, I just wanted to make sure it didn't conflict with anything else we were doing.

Bill: What's the difference? Hey! are you the one that's doing...

Judy: Yes, I did the math model for the paper we submitted to Paris.

Bill: Why, that's great! Then you're one of the authors? That's the best news I've heard all day. Just think, Judy, Paris in the spring! I'll take you to Pigalle, to the Lido, the Folies Bergeres...

Ken: Wait a minute. You mean you can just show up at one meeting and not the other, when you've been accepted, and announced in the programs of both of them?

Bill: Well, I'm no nuclear physicist. I haven't been able to figure out how one person can be in two places at the same time.

Judy: I think Ken was referring to the ethical problem, not the physical one.

Bill: Ethics! I don't know anything about ethics. All I know is that all these symposiums are competing for our papers, and...

Ken: For our papers?

Bill: You're darned right. Just the other day the boss told me we were the two most creative people in the whole lab and that was why he wanted us to represent the lab at the symposium.

Ken: Well, if you allow for a little exaggeration...

Bill: And I didn't hear him say anything about ethics when he told me to get a paper placed somewhere describing our life-support systems for the Venus colony. What he said was, and I quote, "Make damn sure you get into one of the more important symposiums with that one." He didn't say anything about ethics to me.

Ken: He probably assumed it wasn't necessary.

Judy: Or that it wouldn't do any good. Well, what did you do?

Bill: I made sure, just like he said.

Ken: How? By bribing some symposium chairman?

Bill: Oh, no, nothing like that, you have to be lots subtler than that.

Ken: You said you didn't see any ethical problems.

Bill: I don't. What I did was very simple. I made a list of about twenty meeting which might conceivably take a paper on interplanetary

life-support logistics. Then with the help of some of the boys in Marketing, I ranked them in the order of their value to us as publicity platforms. Then I wrote an abstract and sent it to the first ten symposiums on the list.

Bill: Sure, why not? And for the American Management Association Meeting, I'm calling it, "A Results-Oriented, Cost-Effective Executive Plan for Action Decisions Governing Supply Procedures for the Survival of an Essential Operation in a Remote Territory."

Judy: What?!

Judy: And if all those big international symposiums reject it, and you're reduced to submitting it to the Upper Midwest Dairy Associations, you can call it, "How We're Supplying Venus with Minnesota Butter."

Ken: The same abstract?

Ken: You're making a farce out of the whole idea of a symposium paper, Bill.

Judy: To ten different meetings?

Bill: To ten different meetings. And we'll present the paper, not necessarily to the first meeting which accepts it, but to the ones most valuable to us.

Bill: All right, you two smart aecs, how would you do it? Remember, my instructions were to make damn sure I got accepted at an important meeting.

Ken and Judy: [Both shake their heads in amazement.]

Ken: Well, assuming you've got something to say, you submit it first to the most appropriate symposium. If they reject it, you submit it to the next, and so on. You can't submit the same thing to more than one meeting at a time. It just isn't done.

Bill: Well, now exactly the same. I changed the title for a couple of them. For example, on the copy I sent to The Institute of Aeronautics I just called it "Life Support Logistics for the Venus Colony" but for the Operations Research Association I'm calling it, "A Non-linear Differential Monte Carlo Solution to a Time-Variant Interplanetary Queing Problem."

Judy: Not even with different titles. I'm really surprised at you, Bill. That's a cheap dodge, and besides, it's transparent. You'll get caught.

Judy: And that's for the same paper?!

Bill: Sure. The version I sent to IEEE International Convention, I'm calling "Batch-Processed Hybrid Large-Scale Integrated Circuitry for a Long-Range Life Support System."

Bill: Is that so? Well let me tell you two moralists something. In the first place there's no law against submitting the same abstract to more than one meeting at the same time.

Ken: And you've submitted all the same abstract to all those meetings under different titles?

Ken: There's no law at cheating at bridge, either, but if you want to stay in the tournament...

Bill: If you can submit a thing serially, you can submit it simultaneously. In the second place, I'm not submitting the same paper. In fact there won't even be a paper. I'll talk from cuff notes, and I'll shape the talk according to the audience.

Judy: You may not be able to do that, Bill. The big symposia you mentioned all require complete manuscripts. They don't want offhand presentations.

Bill: Look, beautiful, how many papers have you published?

Judy: I've published two. I published a part of my thesis in the Journal of the Mathematical Society and I gave a paper at a meeting of the Society for Applied Math that's going to be published in their journal.

Bill: Well, that's fine, I'm sure, but I've given twenty papers at professional society meetings. [Aside:] These damn kids think they know everything.

Ken: Say, tell me something, Bill. What if several of those meetings accepted your abstract. What would you do?

Bill: That depends. If all of the meetings looked worthwhile, then I'd present the paper at all of them.

Judy: You'd give practically the same talk at four or five different meetings?

Bill: I tell you it wouldn't be the same talk. I'd slant it towards my audience.

Judy: Then how many of those twenty papers you've given were actually published?

Bill: All of them. Presenting a paper at a professional meeting constitutes publication.

Judy: I mean printed, afterward, in one of their journals.

Bill: Oh, that. I've never bothered with that. You know, once you've given the talk, you want to go on to something new. You don't want to rehash it all and rewrite it to suit some cranky journal editor.

Judy: [Aside:] Uh huh. I'm beginning to get the picture. He's given twenty talks, on a total of maybe 2 or 3 different topics, and he calls that twenty publications. [To Bill:] Bill, you really ought to try getting published in one of the journals. I mean, instead of just talking at the symposia. After all, you have done some advanced work that ought to be in the records. Of course, it's much harder to do...

Ken: I think you might consider, Bill, that the lab would benefit more- it would get more prestige-

Bill: All right, will you two kids let me know when you're through straightening me out? I'm royally confused. I thought we were going to get together to write some abstracts and send them off to some symposiums. Couldn't we do just that?

Ken: Heah come de judge.

Bob: Hello, everybody. What have you got for me to look at?

Bill: Here's a couple of mine. [Hands paper to Bob.]

Bob: Let's see. Hmmm...algorithm....process...

Judy: [Aside:] Oh-oh.

Bob: [Preoccupied] Yeah? who is it?

Bob: What's this? "continuous time-conditional, mean-variance, nonlinear optimum filtering...Efficiencies...results.." Okay, Bill, tell me something. Did this algorithm thing of yours work? Is it any good? I can't tell, from this.

Judy: It's the guard at the front desk. He says he's got a phone call from Venus!

Bill: Why, yes. I mean, sure it's good. It'll work all right once we get it going. It's only in the developmental stage right now.

Bill: Did you ask him what he's smoking?

Judy: Oh, boy!

Bob: Ask him if I can call them back. Why can't they leave me alone on a Saturday afternoon?

Bob: You mean, it's a technique you've been thinking about, but haven't really done anything with?

Judy: [Into the phone:] Who did you say this was? Oh, Venus Colony Operations Office? But that's Houston! Put 'em on!! Bob, it's Houston. [Hands phone to him]

Bill: Oh, I wouldn't say that. I'm not finished with it, but...

Bob: [Exasperated] Okay, okay, now what? [Into phone] Yes, speaking.

Judy: [Aside:] "not finished"!

Bill: Well, I guess I'll take off. I've done all I can. All my abstracts are right here, and if you're smart you'll use them as models. They're all you really need. [Getting up to go] Yep! If you want to write abstracts of anything, I can tell you how to do it, 'cause I've had lots of experience...Just think, Judy, Paris!

Bob: Bill, I respect your work, but I don't like this abstract. It looks as if you're trying to hide something.

Bob: [To Bill:] Just a minute, we still need you here. [Into phone:] What do you mean, stranded? Aren't they due to blast off in another half hour? No, no. Just a minute. Fuel tank failure, did you say? Well, we can't do much with that, we had nothing to do with the propulsion system. We just did the biological, yes, the life support...what? Parasites in the fuel tank? Metal eating parasites!?...eating their way into the tank to get at the...okay, let me get this straight. Metal eating parasites...trying to eat their way into the main fuel tanks?

Bill: Oh, no. I haven't got anything to hide.

Judy: [Aside:] I'll say he hasn't!

Bob: Like the wrong results. Or no results.

Bill: [Aside:] This guy is obsessed with results. [To Bob:] But, Boss, the results don't belong in the abstract. Somebody would misunderstand them. All kinds of people read abstracts, and they will be sure to misinterpret...[Phone rings]

Judy: Space Biophysics Lab. Hello? Hello? yes, he's here. Just a minute. Bob, it's for you.

Bill: Saaaay, if they do that, there's gonna be one helluva big explosion! All that hydrogen and oxygen under pressure. Maybe we should call the Department of Entomology at the university.

Judy: [Horriified] It doesn't sound very funny to me.

Bob: All right, let me see if I understand you correctly: they can get off the ground with the auxiliary propulsion system, but the oxygen system in the cockpit is leaking now...you mean the parasites are eating into that, too? Different parasites, but still metal eating ones? Well, okay, but look, there is a procedure for emergency operation from the auxiliary liquid oxygen reservoir, and besides, the oxygen in their suits should last long enough to...The astronauts' operating manuals? Sure, the general editor is sitting right here, in fact. [To Bill:] Bill, they need the emergency procedure for the secondary oxygen supply; where is it?

Bill: That would be in volume III...

Bob: [Into phone:] Volume III...what? what do you mean, "adrift"? [To Bill:] They had a docking accident just before landing, and the volumes explaining emergency life support procedures are all adrift in an orbit 90 miles above Venus. [Into phone:] Tell them to disconnect the liquid oxygen tank from the...They've what? Been squirting their oxygen on the parasites? Well, that was a good idea, but they do need that oxygen...no, the best way to kill the parasites will be to get back into orbit. I can't quite picture those things, but if they're used to living at 800 degrees fahrenheit...All right, all right, hold on a minute. We'll have instructions written out for you to tape and transmit. Judy, figure the quantity of oxygen they'll need if they miss the next pass and have to orbit an extra 90 or 180 minutes before lift off and allow for a possible 50% drop in cabin pressure. Ken, give Judy the standards she'll need for oxygen consumption rates if they're operating maximum power down and operating the cooling system by hand for 90 and for 180 minutes. Bill, work our a list of the life support systems they can shut down and still get back to the command vehicle alive. They're depending on us for the information and we have four minutes...

Judy: What's the cabin temperature going to be? If it's high..

Bob: Assume a fast rise to the system maximum, sustained for 5 minutes, then cool down for 20 or 30 minutes to standard. They're using maximum power on the coolers in case of leaks. Move fast, Judy, they're depending on you. The next escape window from Venus is 19 months.

Judy: What's the demand rate from lift off to orbit?

Bob: God only knows. They're cancelling everything inessential, but if they have to scramble around stopping up holes..

Ken: Can we assume the regenerative cooling system is operating?

Bob: I hope it is.

Judy: I'll have to assume their heart rates are up around 150...

Ken: [Handing her a sheet he's been working on] Here are the rates; they're not exact, but they're close.

Bob: Hello, Houston? Hang on, we'll have the information for you in a minute. How are you transmitting? [to Bill, Ken and Judy:] Listen, all of you! The orbital vehicle is out of range, and Houston is transmitting direct to the launch group, and their receiver is breaking down. Now, get this: we're giving them 50 words, they're taping it, and they're going to cycle it on the Houston transmitter until they get a reply. 50 words, for all out combined information, and it has to be understandable through static and cross talk...Yours first, Judy, let's go!

Judy: Ninety-minute demand rate, six point five zero, cabin temperature normal; eight point five zero, cabin temperature high. One hundred eighty minute rate, five point zero. [Hands sheet to Bob]

Bob: [Into phone:] Set oxygen supply to cabin at six point five for normal, eight point five for high. For second orbit, five point zero. [To Bill:] All right, Bill, you've got thirty words. [Guard enters with handful of TWX's]

Bill: Chief, it just can't be done. You can't reduce 60 pages of instructions to 50 words. This is an enormously complex problem. We're going to have to give them a list which will take at least 15 minutes to transmit...

Bob: What have you got there? Give me that! [Takes papers from Bill and picks up phone]

Hello, Houston? Here's the rest of it, are you taping me? Set Sabatier system on maximum until liftoff, then automatic. Lock membrane diffusers to altitude control. Set regenerative cooler to half-power, all other systems to zero. Good luck, yes, that's mboxall...please let us know. [Hangs up the phone] Now there's nothing to do but wait.

Judy: While we're waiting, here's a whole bunch of TWX's the guard brought. They're all addressed to you, Bill.

Bill: I'm sick. I don't want to see them. Besides, they're all probably acceptances of the last abstract of mine. You look at them, Judy.

Judy: Well, let's see...the first three are rejections, Bill...hey, wait a minute, here's one addressed to all three of us! Say, it's from Paris! The Paris meeting- we're in!

Bob: What's all this? Paris? Paris, Arkansas?

Bill: Hell, no, Boss, this is the big international conference on Life Support Systems technology in Paris next April.

Bob: Forget it. I can send guys to ten different conferences in this country for the cost of sending the three of you to Europe.

Bill: But we can't withdraw now, not after we've been accepted, and the Company committed to it. Why, that would be unethical!

Judy: Here's another rejection, and another...Bill, they've all rejected your paper! Oh, wait a minute, here's an acceptance; here's a meeting that wants your paper!

Bill: Yeah? What is it?

Judy: It's signed, Program Chairman, Junior Chamber of Commerce, Swamp Center, Minnesota.

Bill: The what? They must be crazy; I never heard of them.

Judy: You must have offered them your paper. It says "your talk of life-support for Venus" and they want you to give it at their monthly meeting in Swamp Center on April 15th.

Bill: That's absolutely preposterous. How did they even hear about my paper? And what makes them think I'd go out in a hole like that?

Judy: It's not a hole, Bill, it's a swamp!

Ken: Swamp Center, Dead Gulch; what's the difference? It's an acceptance, isn't it?

Bill: They can all drown. I never sent them a copy of that abstract.

Ken: From what you told us awhile ago, Bill, I don't see how you could have missed them.

Bill: Judy, could you find out how they got the thing? I assure you I have no intention of talking with them.

Judy: Sure. [Into the phone:] Operator, could you get the Swamp Center, Minnesota, Junior Chamber of Commerce, for me? Yes, that's Minnesota, M-I-N-N-E-S-O-T-A. Sure, I'll talk to anybody. [To Bill:] You'll love Minnesota in April, Bill. You'll want to take your skates and your toboggan. And you can go ice fishing on the, oh, swamp... [Into phone] Hello, this is the Space Biophysics Lab in Los Angeles calling. You're the secretary? That's fine. We have a letter here accepting a talk on Life Support Systems for Venus by a Dr. Bill....Yes, that's correct. Can you explain how you got a hold of the abstract for that talk? He doesn't recall sending it to you. Your grandmother? Works at MIT, in the maintenance department...and found it in a wastebasket...used it to wrap...oh, okay, and then sent it to you at your office, where...right. Well, thank you, oh, I believe he'll be there, all right. Thanks again, bye. [To Bill:] Bill, it got there by a fairly indirect route. There was a professor at MIT...

Bill: Professor Growl...

Judy: Well, he apparently didn't really want it; and the secretary I was just talking to in Swamp Center has a grandmother in, ah, one of the departments at MIT. And Professor Growl sort of gave it to her, and she used it to wrap some smoked scrod to send to her granddaughter...Would you believe you can't get scrod in Swamp Center? [Phone rings] Space Biophysics Center...Bob! It's Houston! [Hands phone to Bob]

Bob: Yes, speaking...it worked! They made it. They're lifting off...going to dock in ten minutes! [to the others:] Congratulations, all of you. That was a good job of abstracting.

Bill: Abstracting? oh no, Chief, that wasn't abstracting. That was just a set of boiled-down instructions. An abstract is something else entirely. Like I was saying a while ago...

Bob: Bill, shut up a minute and listen to me. We saved those guys and we did it with a

short statement of just exactly what they needed to know. We didn't send them a list of goodies; we didn't hint vaguely at our concussions; we told them! We gave them the essence of a long, involved chapter full of instructions and we put it in such plain English that nobody could misunderstand us. That's exactly what every abstract should do. So much for the sermon, you can all have the rest of the day off. But first I'll reward the hero...

Bob: That is exactly what I want you to do. If you can describe your work so that it makes sense to a Chamber of Commerce, then maybe you can write an understandable abstract. That is all I have to say. Goodbye, everybody!

Bill: Preposterous!

Judy: [Going offstage with Ken] Oh, Bill, be sure to dress properly when you're out there, won't you? I mean, if you should fall through the ice you might get thoroughly chilled without your longies.

Bill: Aw, shucks, Chief, I was only doing my job.

Bob: reward the hero, and punish the villain. Now then, Ken and Judy, you will both be going to Paris. I want the two of you to give that paper and represent the Lab at that meeting.

Bill: But-

Bob: And Bill, since the Paris meeting conflicts with the one at Swamp Center...

Bill: You aren't serious?

Bob: I want you to represent the Lab at the Swamp Center meeting and give your paper there.

Bill: This is ridiculous! Do you really expect me to explain an Interplanetary Non-linear Logistics System to a bunch of clods who probably can't even remember their high school algebra?

Ken: [Aside to Judy:] Hey, I know the perfect hotel on the left bank overlooking the Louvre...

Judy: Shhhhhh!