The Planetary Association for Clean Energy, Inc. La Société planétaire pour l'assainissement de l'énergie, inc.

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The Editor
Dallas Morning News
P.O. Box 655237
Dallas, TX 75265

Dear Editor:

As Vice-President of PACE, the Planetary Association for Clean Energy (headquartered in Ottawa), I write to offer some perspectives on the comments by personnages at Texas A&M University regarding Dr. John Bockris.

These people, said to include a Nobel Laureate, two former chancellors, and a former president of the university, signed their names to a petition criticizing Prof. Bockris for "alchemy" because he carried out an experiment in transmutation. They wrote: "For a trained scientist to claim or support anyone else's claim to have transmuted elements is difficult for us to believe and is not more acceptable than to claim to have invented a gravity shield, revived the dead, or to be mining green cheese on the moon".

These comments are astonishing. Can it be that this distinguished group does not know that transmutation can be and is carried out regularly in Texas A&M's own cyclotron? but the cost of doing so is more than the gold thus produced is worth. The achievement of transmutation in a cyclotron hardly news and was first accomplished in the 1930's!

Unfortunately, they are the ones who will be causing people to "snigger" (to use their term) at A&M for having so many professors who are unaware of one of the most fascinating achievements of modern science: that transmutation, yes transmutation - for which these gentlemen poke fun at Dr. Bockris - is not alchemy but a fact of life that has been accomplished many times right on their own campus!

Like many others, we at PACE know Dr. John Bockris as the father of electrochemistry. Aware of his pioneering spirit, I travelled to College Station a few weeks ago to consult with him on a fraction achieved by Prof. Yull Brown which suggests the transmutation of nuclear wastes, resulting in a significant drop in radioactivity as measured on a Geiger

counter; this, of course, is regarded by scientists as extremely unlikely, to say the least. Dr. Bockris has been acquainted with the work of Prof. Brown for some years but was not aware of his work with radioactive wastes. I was delighted to find Dr.Bockris interested in looking at the Brown work, open to the possibility that there could be something remarkable happening which, if true, would be of enormous value, given our inability to dispose of nuclear wastes. And isn't this the quality we desire in our scientists - openness to new ideas?

While with Dr. Bockris, I became aware of the uproar over his experiments in transmutation with "low-energy physics". Those who are aware of the ability to transmute mercury to gold in a cyclotron state that "yes, we can do transmutation in a cyclotron through high-energy physics, but no, we surely cannot do transmutation through low-energy physics"; however, the point is granted that transmutation can be done. All Dr. Bockris was doing was looking to see if there are any other ways to do transmutation. What's wrong with looking? How would we ever make new discoveries without looking - or if people are ridiculed for looking?

While at A&M, I joined an inventor also well known to PACE, Dr. Alvin Marks, one of whose 128 patents may provide an important breakthrough in solar cells. A top national organization is evaluating this patent at Texas A&M - where they came in order to obtain the services of Dr. John Bockris.

A recent issue of the <u>Journal of Electroanalytic Chemistry</u> devoted its entire edition to Dr. Bockris on the occasion of his 70th birthday, reviewing how he in effect started this branch of science.

Whatever Texas A&M decides to call Dr. Bockris, the rest of the world will continue to consider him "Distinguished" - and to be amazed that Texas A&M, a university rightly held in high regard, can contain so many professors who do not know that transmutation is not alchemy but can be done any day of the week in a cyclotron, even in the cyclotron right there at A&M (one of the best in the country, by the way). By their lack of knowledge of science, it is they, not Dr. Bockris, who will bring embarrassment and "sniggers" to A&M.

It must be said that the world scientific community respects Dr. Bockris exactly because he is a pioneer who is willing to investigate new ideas and different ways to do things - even a different way to do transmutation.

Sincerely yours,

Daniel Haley, Vice President PACE

Dr. Eugene F. Mallove, Editor "Cold Fusion" Magazine Wayne Green, Inc.

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January 17, 1994

Dr. Duane Kraemer College of Veterinary Medicine Texas A&M University College Station, TX 77843 Fax: 409-845-5088

Dear Dr. Kraemer:

I wish to comment on the upcoming inquiry regarding Professor John Bockris, following the petition by Professors Adkisson et al.

Let me first state my qualifications. I hold degrees in engineering from both MIT and Harvard University; I am the author of the well-regarded book on the cold fusion controversy, Fire from Ice: Searching for the Truth Behind the Cold Fusion Furor (John Wiley & Sons, 1991), and I have investigated and participated in cold fusion R&D. My position on "cold fusion" is that the excess energy phenomenon has been verified now beyond question in a host of experiments and that low-energy production of various nuclear products, such as tritium, neutrons, isotope shifts, etc. have also been verified. What remains to be accomplished in this field -- apart from commercializing new energy technology -- is to search for the atomic-scale physical mechanisms to explain these phenomena.

First let me note that my colleague, Mr. Jed Rothwell, has submitted to you, to President Gage, and to Dr. Robert Kennedy a letter (dated January 13, 1994), also having to do with this petition against Professor Bockris. Mr. Rothwell's letter is an excellent critique of the situation in which Texas A&M University finds itself. I endorse Jed Rothwell's letter in its entirety. I too suggest that the petition signatories be compelled to apologize in writing to Professor Bockris for maliciously attacking his reputation and questioning his academic freedom to pursue frontier research that is now part of a growing world-wide research effort: "cold fusion" and low-energy element transmutation.

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Now I wish to go further. I have read the petition against Professor Bockris and find it to have been carelessly and recklessly put together. An attorney in a court of law could establish the fact of its careless composition in five-minutes! I am astonished that the signatories and original composer of the petition could prepare such a flawed document -even in the context of their own wrong-minded effort to deny academic freedom to a Distinguished Professor.

Let me describe some evident flaws. The "Request" was apparently so hastily put together that is states: "For a trained scientist to claim or support anyone else's claim to have transmuted elements is difficult for us to believe..." Are we to understand that the petitioners do not acknowledge the viability of transmuting elements in nuclear particle accelerators, in fission reactions, and in radioactive decay? Clearly, this cannot be, for they each must have a modicum of scientific training -- whatever their fields. They apparently intended to attack the idea of *low-energy* transmutation of elements, but they were not careful in so qualifying their petition. Hence, they have literally made fools of themselves by signing that document. This is *not* a small point! It indicates the haste with which these gentleman assembled themselves into a mob to attack Professor Bockris.

Note also that the petition was so hastily dispatched that there is even a glaring grammatical error in it: ..."Bockris' recent activities has made..." A plural subject with a singular verb! There is also a spelling error in the second line of the petition! The word is *imbroglio* NOT *embroglio*.

The foregoing points about the language of the petition should give you pause. However, much more important is the juxtaposition of Professor Bockris's experiments with other low-energy transmutation work that I understand has been conducted by Dr. Kevin Wolf, also of Texas A&M University. I am certain that Dr. Wolf's cold fusion experiments, which were funded by EPRI, must have come to your attention. Dr. Wolf was to have been a speaker at the recent Fourth International Conference on Cold Fusion, in Maui (December 6-9, 1993). He was listed on the program at a prominent point with a "topic to be announced" designation. Those in the cold fusion field who have heard about his serendipitous discovery of low energy transmutations in cold fusion experiments were eagerly awaiting what Dr. Wolf had to say. Unfortunately, they were deprived of this critical scientific information by back-room maneuvering on the part of an opponent of cold fusion.

In your dealing with the petition against Professor Bockris, the very first step you must take is to give Dr. Wolf's results a complete public

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airing. I have not seen the data for these results myself, but those in the cold fusion field who have seen them tell me that they are proof that transmutations have occurred within several palladium cathodes tested by Dr. Wolf in his cold fusion experiments. Among these transmutations were the formation of radioactive silver, rhodium, and ruthenium. The evidence was obtained by high-resolution gamma-ray spectroscopy of several of Dr. Wolf's cathodes.

If Texas A&M University decides to violate the most basic tenets of academic freedom by granting the petitioners any satisfaction, it will be committing a serious injustice. Action against the legitimate scientific investigations by Professor Bockris would have horrible repercussions for Texas A&M, particularly because these low-energy transmutations are now being increasingly verified in various cold fusion experiments around the world. For the administration of a great university to have acted in haste against the expansion of scientific knowledge, would be an indelible black mark on that university.

I trust that you will take these comments seriously and after reviewing the situation, completely reject the petition against Professor Bockris. If you require further testimony from me, I would be glad to oblige.

Sincerely.

Eugene F. Mallove, Sc.D.

Editor

cc: Professor John O'M Bockris

Dr. Dean Gage, President, Texas A&M University

Dr. Robert Kennedy, Vice President for Research, Texas A&M

January 17, 1994

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Dr. Duane Kraemer FAX: (409) 845-5088 College of Veterinary Medicine Texas A & M University College Station, TX 77843

Cc: Dr. Robert Kennedy
 Vice President, Research
Cc: President Dean Gage

Dear Dr. Kraemer,

My brother George is a "Distinguished Professor" of Anthropology at TAMU (and, I have heard, the only such who declined to sign a petilion demanding the resignation of Distinguished Professor John Bockris for allegedly damaging the prestige of TAMU). However, my brother had been abroad for several months when the furor erupted, and our 89-year old mother, who also lives in College Station, and who has heard me express admiration for Dr. Bockris, mailed me numerous and lengthy inflammatory articles from your local press, so that I was aware of this brouhaha before my brother returned to the USA. I was so appalled at the articles in your local press that I told my Mother that I was going to write a Letter to the Editor attempting to set the record straight. However, she begged me not to do it, on the grounds that "it might damage George's reputation to be associated with this furor". But now that the slanderous article has appeared in Newsweek (and my brother George -- God bless him! -- has returned to the USA and manfully declined to join in the lynch mob), I am going to submit an "op ed" piece about this matter to Newsweek's "My Turn" feature, and advise them to set their Investigative Reporters to start digging into the real TRUTH of the matter.

The real TRUTH of the matter is that Dr. Bockris may well be viewed by future historians as one of the greatest scholars and researchers who ever set foot in Texas, and "Distinguished Professors", instead of looking like hicks to their "peers" in the Ivy League universities for having tolerated him in their midst, are going to look to our own great-grandchildren like the foolish Cardinals who refused to look through Galileo's telescope to see the phases of Venus or the Jovian satellites (miniature Copernican systems orbiting Jupiter), but instead compelled the founder of modern science, upon pain of being tortured to death for taking seriously the "Copernican heresy", to recant and accept house arrest for the remainder of his life.

This attempt to "get" Bockris has NOTHING to do with "alchemy" and EVERYTHING to do with Dr. Bockris' principled and well-informed

dissent from the dogma of the "scientific Establishment" to the effect that Cold Fusion is "impossible" -- an incompetent dogma which in a few years will be recognized by the entire world as not only misguided scientifically, but misguided for REPREHENSIBLE motives: to maintain the status quo in the "scientific pecking order", with Physicists as the proud "keepers of Fundamental knowledge" and High Energy Physicists (designers of the Waxahachie boondoggle-fiasco) as the High Priests of physics.

If you would phone me and be prepared to LISTEN to hard evidence for say 30 minutes (or write me that you would be willing to study a LENGTHY letter pointing you in the direction of incontrovertible factual evidence which you can study for yourself), you would soon learn that the prejudice against the possible existence of the phenomenon of Cold Fusion stems from sheer incompetence on the part of the Establishment figures who have delivered its [premature] The experiments at Caltech, MIT and Harwell which disconfirmed the epochal discovery of Martin Fleischmann, FRS and his colleague Stan Pons at the University of Utah in March, 1989 (almost 5 years ago), have long ago been exposed as incompetently conceived and malconducted AT BEST (if not actually criminally fudged to commit deliberate Fraud on the Public): the former Press Officer of MIT, Dr. Eugene Mallove, who holds an M.A. in Astronautical Engineering from MIT and a Ph.D. in Environmental Engineering from Harvard, and who can provide taperecorded evidence that the Hot Fusioneers at MIT lied to him and got him to unwittingly stand up and repeat their lies to the public, has recently published RAW DATA from MIT which showed that they got 10% Excess Heat, but then, 4 days later, when they published MIT's "refutation" of P&F, the curve had been ARBITRARILY moved down an inch, to show oscillation about ZERO EXCESS HEAT instead of oscillation about 10% Excess Heat! You need to read Mallove's wonderful (earlier) book Fire From Ice very carefully, and then see his later-published evidence of CRIMINAL misconduct at MIT before you believe the slanderous and incompetent analyses in the 3 Establishment-produced books (by Frank Close, Gary Taubes, and John Huizenga) which attempt to obfuscate and suppress the search for truth, on behalf of Threatened Vested Interests.

Regarding the experiments at Caltech, an internationally distinguished calorimetrist, Dr. Noninsky, asked to see their raw data and reanalyzed it and proved that even though the Caltech researchers had incompetently not bothered to attain any of the F&P "minimum thresholds" for good experiments (e.g. "beta phase" loading of the palladium lattice by deuterium, minimal current density, etc.), they had still attained 10% or so Excess Heat at Caltech but just did not want to admit it. Dr. Noninsky's papers exposing the bungle at Caltech have been refused publication by Science and Nature, though there are no identifiable mistakes in his work. However, Dr. Bockris has been one of the most persistent, and undoubtedly the most distinguished, of the few scientists (such as Nobel Laureate Julian Schwinger), with an

unimpeachable prior record, to have ceaselessly "nagged" the Editor of Nature to stop suppressing Truth and to allow his readers to see the evidence and judge for themselves, and if the Establishment figures who are covertly trying to suppress public knowledge of the reality of Cold Fusion were asked to name their "number one Enemy" who needs to be "got", it would undoubtedly be Dr. Bockris: and therefore the present all-out attempt to discredit Dr. Bockris is no surprise to me at all.

If you have no time to study the background of this controversy to the point where you feel that you are competent to decide "who is right and who is wrong", I will give you an analogy -- a controversial issue where feelings are almost as strong. read Vice President Al Gore's impassioned plea for Environmental Protection, which in addition to undeniable disasters warns about the "hole in the ozone layer", etc. I have also read former AEC Chairwoman Dixy Lee Ray's equally impassioned "debunking" of the Gore position as unwarranted "alarmism" with an ulterior motive. Frankly, I myself do not KNOW for sure who is right in that controversy. Dixy Lee has published environmentalists who admit that it may be necessary to lie to the public in order to get action, but I know distinguished NASA meteorological investigators who insist that the data is truly alarming and that she is just an apologist for "corporate polluters".

Before <u>I MYSELF</u> would venture an opinion on an inflammatory and infinitely controversial matter like that just mentioned, I would have to take the time to study the matter in depth; to read everything published by both sides, and try to ascertain for myself where the truth lies. But I do not have the time, and in the foreseeable future will not have the time. Therefore on that particular "public policy" subject I have to do what John Bockris once colorfully expressed to me in British "cricket" terminology by saying "I raise my bat" (meaning I PASS!)

But in the subject of Cold Fusion, during the past 5 years, I HAVE devoted the hundreds -- most likely thousands -- of hours necessary to study the matter from all aspects, and I would cheerfully risk EVERYTHING I have or ever will have on three propositions: (1) Cold Fusion is a reality, which in due course will be recognized as the greatest scientific discovery in recorded history -- more important than anything since the discovery of fire; (2) there has been and is now an ongoing Implicit Conspiracy among powerful establishment figures and plutocratic Vested Interests to suppress public knowledge of the preceding fact, or at the very LEAST to delay it as long as possible, while the present power-monopolists [quietly and behind the scenes) master the new technology for private rather than Public Benefit, so that when the public learns the truth and DEMANDS cheap, clean, pollutionless energy, the present oil, coal and nuclear industry monopolists will be able to grab the lion's share of ownership before the public knows what is happening; (3)

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there is not in the world ANY scientist with competence to evaluate the evidence who has taken the trouble to study the massive available evidence who has not shortly thereafter capitulated and admitted the truth of proposition (1). If there are any such at TAMU, I challenge you to invite me to have a Public Debate with them on your campus, and they will soon be seen by everyone in attendance to be sadly uninformed victims of Establishment propaganda who have been somehow stampeded into a premature Rush to Judgment before they got their facts straight.

As EXHIBIT A in favor of the correctness of proposition (3) above, I cite the case of Dr. Heinz Gerischer, formerly Director of the Max Planck Institute for Physical Chemistry, and generally regarded as Europe's leading electrochemist. A dedicated and articulate foe of Cold Fusion from the very beginning, Dr. Gerischer was invited to present a Summary Address at the conclusion of ICCF-2 (the Second International Cold Fusion Conference) in Como, Italy, 1991. This forced him to study the evidence. His concluding address was equivocal, but after he got back to Germany he circulated among the German universities and the German government a private letter stating in part: "the neglect of cold fusion in Germany is no more justified. There is a DANGER [sic] that the public will blame us if other countries, such as Japan, get ahead of us in this new technology." That is a paraphrased quote from memory, but Dr. Bockris has translated Gerischer's letter into English. I sent Dr. Gerischer a FAX asking if his concession was true, and he sent me what I regarded as an intellectually honest but rather grudging and ungracious admission, accompanied by the written statement, signed by Gerischer and FAXED to me, that I could get an accurate translation of his letter from Dr. Bockris!

I have been warned by my friend Dr. Hal Fox that it might not help Dr. Bockris for me to bring out what I honestly believe to be the truth about the present matter, because it is so "apparently far fetched & bizarre" to naive people, who believe that the government never lies to the public, that I might as well say: "I was told this in confidence by the captain of a Flying Saucer."

So to soften you up, I will recount a few incontrovertible FACTS. After Congress forced the National Archives to disclose the documents pertaining to the JFK assassination, massive evidence was uncovered to document the fact that the FBI and the CIA had deliberately and repeatedly lied to the Warren Commission in order not to have to make "embarassing admissions".

I also recall the FACT that Kennecott Copper Co. was exposed as having "given" the CIA \$30 million cash to use in "destabilizing" the democratically-elected but socialist-minded government of an idealistic physician-President, of Chile who was succeeded by a brutal tyrant who ruthlessly terminated all dissenters.

I also recall the FACT, admitted in writing by the former Head of

Britain's MI-5, that (with the knowledge & encouragement of both FDR and Churchill), the United States FBI ran a forgery laboratory from 1938 through 1945 which succeeded in having jailed numerous ALLEGED Nazi sympathizers in the entire Western Hemisphere (such as in Argentina and Canada) by framing them with forged documents. This is not my imagination. The Head of MI-5 could not publish it in the UK for fear of being tried for violation of the Official Secrets Act, so he published his book in the USA, replete with photographs of the forged "evidence" and names, dates, and places of the falsely convicted victims, with the boast that FDR was as happy with his accomplishments as were J. Edgar Hoover and Churchill!

I also recall the fact that the great poet Pushkin was "terminated" by a Czarist agent provocateur who, being an expert duelist, challenged Pushkin to an unfairly lopsided duel. Likewise, the great French mathematician Galois, whose ideas were regarded as "revolutionary" by the Establishment, was challenged to a duel by an agent provocateur of the Establishment who was no match for the 20-year old Galois, who sat up all night before the duel furiously scribbling down the basics of his truly revolutionary Theory of Groups (which will keep mathematicians occupied for 500 years!) before being left to bleed to death in a field the next day.

In the USA we do not refer to them as agents provocateurs any more; they have the more respectable title of "government Sting agents".

There is to my mind OVERWHELMING evidence that Dr. Bockris is the victim of an Establishment "Sting" operation designed to discredit and slow up the advance of Cold Fusion.

Here is just the "tip of the iceberg" of the evidence which I could produce in favor of that interpretation of recent events.

My friend Dr. Sam Faile (whose own inventions have produced such lucrative royalties that he is financially independent, and can spend all of his time on "hobbies" such as studying the truth about Cold Fusion), told me that he or someone he knows [I forget the details] has talked to "Joe Champion" [an alias] and that "Champion" has freely admitted that in his prior career he spent many years in South America as a Sting Agent under contract to the CIA!

Furthermore, "Champion"'s one-year jail sentence will allow him in six months to DISAPPEAR into the Federal Government Protected Witness Program, with a new false identity -- forever beyond reach of justice because he has served his Establishment masters well.

When a self-admitted government Sting Agent appears at TAMU and offers Dr. Bockris money for his Cold Fusion work, he uses the lure of "validation of medieval alchemy" as an excuse for why he wants to be involved with Dr. Bockris. It is not poor scientific judgment on the part of Bockris to be willing to be open-minded

about the conceivable possibility of "low energy alchemy" by electro-chemical methods because ADMITTED genuine alchemy is ROUTINE in High Energy Physics labs and the only dubious matter is whether or not the conditions inside of a PERIODIC LATTICE (such as Resonant Transparency of the Coulomb Barrier, which the critics are too incompetent or too lazy to have looked into) might permit accomplishment by "low-energy judo" what everyone has previously thought can only be done by "high-energy brute force". (Moreover, the High Priests of the Brute Force approach don't want anyone to suspect that their own monopoly rests on a facade of deliberate disinformation!)

Dr. Sam Faile sent me a thick 9-by-12 envelope bulging with evidence that "Joe Champion" is just an Establishment Sting Agent, but I have not had time to read it, and I don't need to study it, because the few facts which Dr. Faile told me on the telephone were enough to convince me already!

What is the undeniable evidence that "Joe Champion" (not his real name) is just a Sting Agent for the Establishment?

Well, who does the Establishment fear and hate more than Bockris? That is easy: Lyndon LaRouche. (I am NOT a LaRoucheite; some of his venom chills me; but it is a FACT that many of his positions are "on the side of the angels" and he has gathered around him many people of outstanding competence and well-intentioned good will.) A Federal Judge has ruled that when 400 Federal Marshals staged a surprise raid upon LaRouche's compound and threw him and his top leaders into jail on trumped up charges, they were performing a Fraud on the Public, for reasons too lengthy to detail here. Even though the Courts have overturned the "forced bankruptcy" under which LaRouche was judged guilty of taking money under false pretenses (therefore, according to the Judge, preventing him from paying back what he insists were loans from supporters), LaRouche and his top people are now serving 30 year terms as Convicted Felons. (Future history will say they were political prisoners, who had frightened the Democratic party when a LaRoucheite won a primary in Chicago and caused powerful figures in the hidden Establishment to connive with the Feds to 'get LaRouche out of the way'.)

Why does the Establishment hate & fear LaRouche even more than Bockris? It is because the LaRouche followers' wonderful popular magazine, Twenty-First Century Science & Technology (now available in California at the larger newsstands) is the ONLY popular magazine in the USA which has consistently reported the TRUTH about Cold Fusion. (I have to also take off my hat to the Editor of Popular Science, in case you have seen their August, 1993, coverstory on Cold Fusion, subtitled accurately enough "It Ain't Over Till It's Over!".)

So who did the Establishment try to destroy before they turned their attention to Bockris of TAMU, as their second most dangerous enemy? To Ms. Carol White, Editor of the magazine just cited. And what did the Establishment do? They sent obliging Sting Agent "Joe Champion" to see Ms. White with some cockamamie scheme to sell forbidden nuclear technology secrets to China & North Korea!!! But -- Thank God! -- Ms. White turned the tables on "Joe Champion" by contacting the State Department and blowing the whistle on "Joe Champion" as someone trying to inveigle her into a criminal scheme to Export Technical Information Without a License!

With the attempt to further crush LaRouche's public dissemination of inconvenient truths now foiled, the covert Establishment decided to try to discredit Dr. Bockris, the most "academically respectable" investigator of Cold Fusion in the USA.

[alleged]

Are you, "hicks" down there at TAMU such hayseeds that you can't recognize an Establishment carpetbagger even when he leaves his own bloody fingerprints all over his clumsily-forged calling card?

Sincerely, Robertw. Bass

I doubt if any of the TAMU "Distinguished Professors" have remarkably better academic credentials than I do: I was a Rhodes Scholar and did 3 years of Post-Doctoral Research at Princeton under Solomon Lefschetz, who later received the National Medal of Science from President Lyndon Johnson. Also my issued Patent on an "optimal" Hot Fusion Reactor purports to provide 1,000 times the cost-effectiveness of the DOE-chosen Tokamak design, and if you want I can send documentary evidence that my Patent, submitted in 1974, was 10-to-20 years AHEAD OF ITS TIME in explicitly containing what the Establishment has since touted (after they were discovered in Russia and plagiarized with no credit here) the "4 most important" discoveries pertaining to hot fusion control of the past two decades (namely, (1) kidney-bean shaped cross section [vide the Princeton Bean Experiment or PBX; (2) electromagnetosonic instabilities [besides the magneto-acoustic ones]; stabilization by increased Aspect Ratio [because of Finite Larmor Radius (FLR) effects]; (4) so-called "second stability" for "higher (If you doubt it, I can send a photocopy of the patent, with the very equation-numbers and diagrams marked for comparison with decades-later Establishment-supported publications!)

P.P.S. Do you remember in the first Star Wars movie where Obi-Wan Kenobie reminisces that he was "wounded in the Clone Wars"? Well, I can truly reminisce that I myself have been "wounded in the Cloned-Opinion Wars", and have real scars to prove it. When Dr. A.V. Balakrishnan, winner of the IEEE Guillemin Prize and of NASA's von Karman Medal, sponsored me for a visiting faculty position at UCLA, certain hot-fusioneers extracted from his department chairman a promise that they would not allow me there unless I myself promised in advance that I would not attempt to publish ANYTHING about Hot Fusion and put "UCLA" under my name, while there!!!

SENT BY:

SYRACUSE UNIVERSITY

Department of Chemistry

Syracuse, New York 13244-4100

January 16, 1993

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Dr. Duane Kraemer
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Dear Dr. Kraemer:

This letter is written in support of Professor John Bockris and in the interest of Texas A&M University.

Let me, at the onset, state that I am not qualified to make a valued scientific judgement on the merit of Professor Bockris' research. This, however, is not the issue. The issue is academic freedom to pursue research and express opinion regardless of the controversy it may create. The issue is the recognition and respect of an eminent, world-class scientist. The issue is sanity and human dignity. Equally importantly, the issue is Texas A&M University's ability to handle its inquiry thoroughly and fairly.

I find it difficult to imagine that someone with a publication record of over 700 highly cited research papers and some 20 lucidly written books would resort to a disreputable, let alone criminal, venture. Unfortunately, readers of the popular press are unlikely to peruse the recent Festschrift in the Journal of Electroanalytical Chemistry (1993, Volume 357, pages 1-46) which honored John Bockris for his 47 years of pioneering research in most aspects of modern electrochemistry. I urge you and the members of your committee to look at this publication and consider the life-long accomplishments of Professor Bockris and his contributions to your Institution. He must have enhanced the visibility of Texas A&M University, inspired students, trained researchers, and brought in funds. I, for one, have learned a great deal from the books which John Bockris has written and have used them fruitfully in my teaching and research.

The history of science is full of controversies. Originality and creativity have always met with skepticism. Sometimes this skepticism becomes nasty and degenerates into a personal vendetta. Judging by some press reports, John Bockris has become, in fact, the victim of a well-orchestrated malicious campaign and has been found guilty of misconduct without a proper hearing. The purpose of academic freedom and tenure is to permit the pursuit of scientific research, even against overwhelming antagonism. This is being done in most Universities and is fostered in great ones.

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Peter L. Hagelstein, MIT 38-290 Cambridge, MA 02139 Phone: 617-253-0899

December 15, 1993

Professor John Bockris Texas A&M University Chemistry Department Fax - (409) 845-4205

Dear Professor Bockris,

It was good to see you at the ICCF4 conference last week. Sorry to hear that your colleagues at Texas A&M are giving you a hard time over your work. I guess to some degree that this letter is as much for them as it is for you.

There are numerous anomalies that have been reportedly observed in this field that many refer to as "cold fusion". As you are aware, I do not believe that fusion (especially d+d fusion) can occur in electrochemical cells. The idea that a lattice could somehow squeeze deuterons together sufficiently hard to get them to fuse seemed to me to be absurd when I first heard about it.

Early on, a number of my colleagues encouraged me to consider what might be happening, in case Pons and Fleischmann were right that a heat effect existed: I first considered a scenario in which fusion could occur as a coherent process. Due to the local politics at MIT, even the mere consideration of such a scenario attracted media attention and came very close to costing me my job. After about six months

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of thought and making various estimates, I was able to put my ideas together in the form of a quantitative theory, and show explicitly that even with the most optimistic assumptions about screening that high levels of heat were unlikely to come about from such a theory. This work was presented at the Winter ASME meeting in San Francisco in Dec. 1989, and subsequently published in J. Fusion Energy.

My ideas have since evolved, and the experiments have evolved as well. Since the early days of claims of heat, tritium and neutron production, we have seen reports of alpha, beta, and gamma emission and activation of high-Z nuclei. Kucherov claims to have seen energetic fission products emerging from his cathodes in glow discharge experiments.

The heat and tritium results have proven generally difficult to understand theoretically, since so very little positive information is available. Heat is accompanied by the absence of energetic products, by the absence of quantitative neutrons or tritium, and so far neither by quantitative ⁴He yet as far as I can understand. The glow discharge experiments of Kucherov and colleagues seem to me to be extremely important in this respect, that they give positive anomalous nuclear signals from which very positive statements for and against various theoretical proposals can be made.

It is immediately clear that fusion is not the source of the anomalies. Fusion would not lead to significant activation of Pd cathodes, to the production of continuum gamma radiation peaking at 4 MeV and extending out to 20 MeV, to the production of neutrons with energies also out to 20 MeV, and to the production of what appears to be fission products of Pd.

As you recall, at ICCF4 I presented a theory that seems to have the prospect for accounting for these various effects. These ideas were presented at Princeton in November, and more recently at MIT; at both Universities my presentation was well-received.

I focused on energy exchange between the lattice and nuclei embed-

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ded within, starting from a consideration of the lineshape in Mossbauer spectroscopy. Changes in the mass, charge, excitation or final location of a reacting nucleus can lead to changes in the structure of the phonon spectrum in the lattice. Such changes in the phonon modes are generally small and can usually be ignored. In Mossbauer spectroscopy, they give rise to observable effects that go under the heading of the second order Doppler shift.

In the case of neutron capture, the mass of the nucleus can change significantly (by two in the case of $p+n\to d$), and a few phonon modes may be affected drastically. If impurity phonons modes are involved and if the neutron capture alters the number of impurity nuclei present, then three phonon modes can jump from one impurity band to another. Calculations indicate that in this case, the phonon modes more or less take their phonons with them, which leads immediately to lattice/nuclear energy exchange. The amount of energy transfer is $\Delta E = N\hbar\delta\omega$, where N is the number of phonons initially present, and where $\delta\omega$ is the frequency shift for a gap-jumping phonon mode. Whereas the shift in phonon energy can be up to about 10 meV, if 10^8 phonons are initially present (these are continuum modes, so that the energy is delocalized), then the energy transfer may be on the order of 1 MeV.

These ideas were presented at the International Mossbauer Conference (ICAME93) last August, and were well-received by a critical audience. Mossbauer himself said that the basic mechanism is fundamentally sound.

Most interesting in the theory are the results in the case of Pd vacancy modes in PdD. If the lowest phonon modes of the optical branch are strongly excited, then the removal of one Pd nucleus will change the potential seen by the neighboring 8 deuterons, and lower their frequency. If many similar vacancies are present, then the 8 deuterons will join a "vacancy impurity band;" this allows anomalous energy transfer in principle for high Z nucleus.

The Kucherov experiment appears to work in this fashion. Strong

was disheartened because I thought that the last thing in the world that the field needed was to be associated with alchemy. It was clear that any association, no matter how weak, would be seized by critics to hammer yet another final nail into the coffin that they have constructed for cold fusion. Due to the politics, it would not matter whether there existed and effect or not, that an association with alchemy would ultimately lead to the cry of scandal.

I assume that by the time you receive this letter that your colleagues will have stoked the kindling at the base of a very large stake with your name on it, and will ultimately succeed in this way in cleansing your soul of the scientific errors that in their view you have made. And after you, others.

But after some reflection, what has been discussed in the cold fusion business could be classified under one of the definitions of alchemy in the American College Dictionary. Altering nuclei through essentially chemical means is the heart of alchemy, losing the immediate focus on the production of gold.

In light of the theoretical ideas discussed above, what would it take to turn mercury into gold? Electron capture from ¹⁹⁷Hg (unstable with a 64 hour half-life) would produce ¹⁰⁷Au (the only stable Au isotope). So how would you get ¹⁹⁷Hg? Neutron capture onto ¹⁹⁶Hg (0.15 %) or neutron transfer from ¹⁹⁸Hg (10.0 %), the latter being more likely. Given that neutron transfer from Pd to Li, and from K to Ni, are at the moment leading candidates for explaining heat production, I would ask whether quantitative gamma emission at 77.34 KeV is observed with a half-life of 64 hours. Given that lattice-induced enhancement of the electron capture process is possible, I would settle for substantial 77 KeV emission with a 64 hour half-life after the material is cold.

My understanding is that there occurred some evidence in these experiments for the production of ¹⁹⁷Pt with a corresponding 18.3 hour half-life (also producing 77 KeV). This could follow in my theory from

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lattice-induced alpha decay of 201 Hg (13.2 %).

As I told you before, my interest in this effort is limited to the observation of chemically-induced radioactivity. Whereas I would be worried that someone might be motivated to spike a sample with gold for one reason or another, it is a very different matter to spike a sample with a radioactive impurity that has an 18 hour half-life, especially if you have tested for its presence beforehand.

In the Kucherov experiments, there is evidence for induced radioactivity that falls off in minutes. Although Morrison has argued that this is due to the use of Pd that is initially contaminated, this is not convincing since if true it should be seen in the initial cleaning discharge runs in the 20 minutes before the "live" discharge begins. Should you succeed in demonstrating chemically-induced radioactivity with Hg, I have to say that I am interested, even if it happens to come from replications of "experiments" that were first carried out 500 years ago.

Good luck in the trials ahead that are facing you. Judging by historical precedent, I suspect that you will in fact get burned at the stake, in spite of my input or input from anybody else. I cannot judge the wisdom of having been associated with Champion and his colleagues (in retrospect, it seems to have been a bad idea), but this is a matter separate from what I can knowledgeably write about.

Best wishes.

Peter Hagelstein