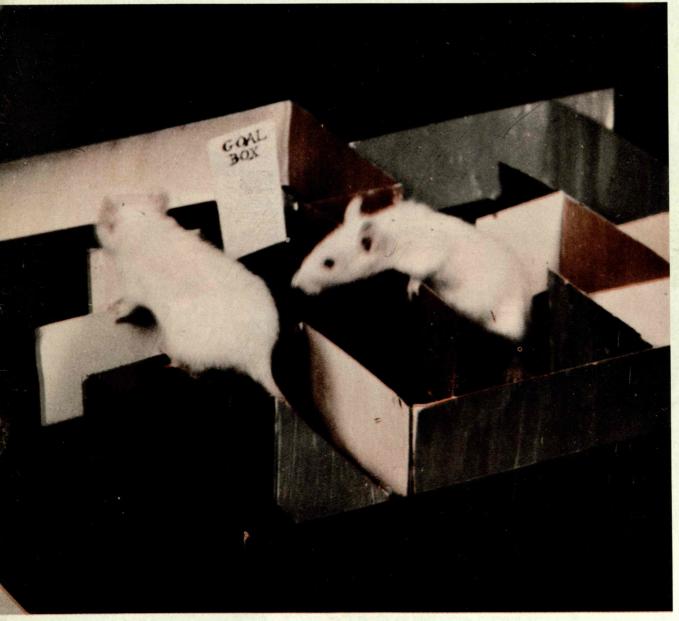
SCIENTIFIC AMERICAN



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February 1963

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ARTICLES

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9	THE DISAPPEARANCE OF THE GREAT SMUT, by I. Tong Modern civilization is hastening the departure of a once- noble beast.		
12	THE LOST CONTINENT REGAINED, by E. L. Pragla Fragments of a poisoned civilization are found beneath the Charles River.		
14	VOLUNTARY METAMORPHIC TRANSFORMATIONS, by D. Mayer A new discover about an ancient phenomenon.		
16	SYNTHESIS OF LIFE, by C. Deber Vulnerable virgins need no longer fear.		
22	SOME NOTES ON THE PHYSICS OF SUBERIZATION, by I. J. Plurp The Homoplesian Approach exposed.		
23	METABIOLOGY, by S. Kraysler & L. Chess Some obscure obfiscations on a new science.		
	DEPARTMENTS		
2	LETTERS		
4	50 AND 100 YEARS AGO		
6	THE AUTHORS		
19	SCIENCE AND THE CITIZEN		
27	MATHEMATICAL DIVERSIONS		
28	THE AMATEUR SCIENTIST		
	THE AMATEUR SCIENTIST		
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LETTERS

Sirs:

With regard to the assertion, last month, by Prof. F. S. Gotterfunken, that microwave diffusion in phelogical continua is an attribute of sodomic arcokymosis in the male of the species, I would like to make the statement that his assertion is woefully correct. I made the same comparisons in a sample of my private stock of phelogical continua last week, and at last report, it is still bubbling. I hope to meet Prof. Gotterfunken and compare notes with him, as soon as they let me out of here.

R. Roche Conservation, Mass.

Sirs:

Thank you for your kind publication, last month, of the statement, "Don't call X2924". It has undoubtedly prevented many from inconveniencing me at 3 a.m. There have been, unfortunately, more than a few miscreants who have called this number despite your admonition. I have therefore changed this extension number to another unlisted one, to insure domestic tranquillity, provide for the common defence, etc. I would therefore appreciate it if you would instruct your readers to refrain from calling X2985, instead.

Jurin Toomer Tutorfrei, Mass.



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THE COVER

The photograph on the cover shows a highly aroused and highly motivated male rat defying the rules of the maze game in an attempt to reach the goal box faster. It has been determined that rats, like people, will, when given the opportunity, cheat like hell to attain a desired end.

THE ILLUSTRATIONS Cover photograph is the fault of Steve Benton.

Page Source

- 41 Office of Saline Water, U.S. Department of the Interior
- 42 Research Center for High Energy Plasmics, New Calizona State University
- 48 John Crush
- 50 Iyasawa Tong, Electrogasm, Ltd.
- 57-58 Jurin Toomer, BMOC Productions, Inc.
- 60-73 Tony Pierce, Moose Jaw Municipal Museum
- 68-71 Center for Metaphysical Research, Tampa State Biomagnetic Institute
- 79 Steve Chess, Public Relations Department, Divine Kharma Laboratories and Toad Ranch, Inc.
- 87 K.R. Waddly, Department of Image polishing, Massachusetts Tool and Die Works.
- 159 Conrad Grundletrundle, The Tech

100 AND 50 YEARS AGO



February, 1863. "Justin A. Hernfeld, world-famous astronomer, died today at the age of seventy-three. Hernfeld, author of the book Stars 'n Awl Thet, had just completed his analysis of Kepler's findings, and had concluded that Kepler-Galilean physics is fundamentally wrong. He gave as proofs sources such as Aristotle, Ptolemy, and Otto Unfortunately, no Schmink. publisher has as yet consented to print his book, Newton Was Off His Rocker, and it looks like this publication will die in the rough."

"The Boston School of Science and Technology, better known as Boston Tech, has shown a recent decrease in enrollment. This may have been brought about by one of the professors there, who has announced the discovery of the 'Instiscrew.' This amazing device resembles a screw; it differs from one in that it has the ability to screw anything or anyone into the wall whether a torque is applied in a positive or negative direction, or even if no torque is applied at all!"

February 22, 1863. "Word has come today from Savannah that the Erisypilas, the Confederacy's newest ironclad, has been christened, and is scheduled for its launching

the 22nd. This date seems particularly appropriate because it falls on the birthday of the creator of the union which the Rebels are trying to destroy. Union intelligence is hopeful of a bad launching, as the ship is said to be eighty times as dense as water..."

"Harvard University Medical Center reports the discovery of sex. The heads of the research department have discovered that it takes two people, one male and one female, to reproduce. The old theory of storks, birds, and bees, they say, is really a bunch of poppycock."

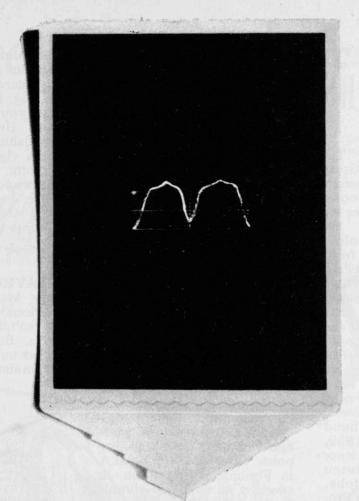
PSEUDO

SCIENTIFIC A MERICAN

February, 1903. "The remains of the Erisypilas, an old Confederate ironclad that went down with all of its crew in 1863, were dredged up today in Savannah harbor. Reasons for its sinking are not entirely known, but it is believed that some saboteurs placed very dense uranium ore, a useless mineral found mostly in Colorado, in its ballast tanks in place of the usual coal and rocks."

"Pole explorer Roald Amundsen, has announced today that after his further exploration of the north and south poles, he will look for the east and west ones, too."

"Harvard University Medical Center has, in conjunction with the Theological department, denounced sex as illegal, immoral, and fattening. Harvard scientists and medical students have decided to refrain from all sexual relations with females. Says one grad student, 'Men are much nicer.'



2 nanoseconds/cm: impossible to photograph until now

Nanoseconds/cm.? So that's what these young engineers call 'em these days! We had a different name, in my day! Well, be that as it may, Ploroid has a new film that is so fast, it will reproduce scope traces that are almost invisible to the naked eye. Yep! If you want a fast record of that view you've been leering at in the apartment across the street through your 68x Japanese telescope, try the 10,000,000 speed Ploroid film used in the above photo. You'll have your finished print, ready for the pornograph,

in 10 seconds.

The Ploroid process also does away with troublesome censorship by the processor...as you know, Kodiak refuses to return photos processed by them which they consider pornographic and hence unmailable. (Boy, do *they* have a collection!) But with Ploroid you are the processor! No censorship!

In case you've been wondering, the above photo wasn't really taken through our 68x Japanese telescope...it is a photo from the face of a Tektronich Oscilloscope... and is part of the Bachelor's Thesis of one Iyasawa Tong, at M.I.T. (Mr. Tong's thesis topic is *The Synthesis of Women with Passive RLC Circuits.*)

The new 10,000,000 speed film is available to discerning users, at a nominal cost of \$46.23/ exposure, by sending the money (unmarked), plus your name and address, to Technical Sales Dept., Ploroid Corp., Cambridge 39, Mass. Film will be sent to you in a plain wrapper. Good shooting!

New Ploroid 10,000,000 — speed film for pornography.

THE AUTHORS

IYASAWA TONG Disappearance of the Great Smut'') is the head of research at Electrogasm, Ltd.'s Moosejaw (Maine) Laboratories for High Energy Research. was born in 1929 in Honolulu and acquired his B.S. from the Boston School of Tort Feasing and Applied Science (now a division of the Deer Island House of Correction). After a brief foray into politics (he ran for Governor of Vermont on the States' Rights ticket in 1948 at the age of 19) he returned to his first love. After this venture (a rice paddy near Burlington) proved unsuccessful, he decided to try his hand at physics again and, in 1959, obtained the Doctor of Science degree from Sam Houston Tech in Big Stone, Manitoba, where he worked under Professor Juan Meade-Ball in developing an electronic highspeed tort-feaser. He was married in 1961 and the Tongs have one son, Juan, named after Dr. Tong's mentor. They presently reside in Moosejaw where Dr. Tong reports that he is kept very busy with his laboratory work, consultant duties, and a backyard rice paddy.

STEPHEN KRAYSLER and LEONARD CHESS ("Metabiology and the Isolation of Spirit from Living Systems") were born in Snowflake, Montana, in 1923. They received their S.B. degrees in Occult Sciences from the College of Eternal Wisdom in Los Angeles (1945) and their Ph.D.'s in Animal Husbandry from the Theobiological Insti-

tute of Tallahassee (1948). They are presently affiliated with the Foundation for Research in Metabiology of Guadalajare and own and operate the Divine Kharma Laboratories and Toad Ranch, Inc., of El Paso, Texas. Their hobbies include baton twirling, Caesarean sections, and telescope lens grinding. They are Siamese twins.

E. L. PRAGLA ("The Lost Continent Regained") was born in Baltimore in 1926. He was the last of seventeen children (which he likes to refer to as "the brood on the shores of the Chesapeake Bay") and his parents were unable to send him to college, so he worked his way through the Wilmington School of Aquatics and Aquarium Management as a part-time porpoise. After receiving his B.A. in Flounder Observation, he enrolled in the Pennsylvania Institute of the Social Sciences, planning to found a school for foundling flounders, but found he could not remain long from his beloved ocean. He signed up with the Hans Jopkin Institute for Navel Studies in Baltimore as a diver and writer, where he just naturally fell into the present study.

CHARLES DEBER (The First Synthesis of Life in the Laboratory) born during the twentieth century in Benson-hurst deep in the depths of darkest Brooklyn, became famous at a young age when he squirted the superintendent of his building in the face with a high pressure garden hose. Although he got all of his haircuts for 20 years from the same neighborhood barber,

he almost never cuts his toenails. Besides chemistry, his interests include food, tort-feasing, ice hockey, and beautiful young women with long hair. He has never gone deep sea fishing, never taken a puff on a cigarette, never seen a dugong, and never been on the wagon. He plans to become president of E. I. du-Pont Co., and eventually to become dictator of the world.

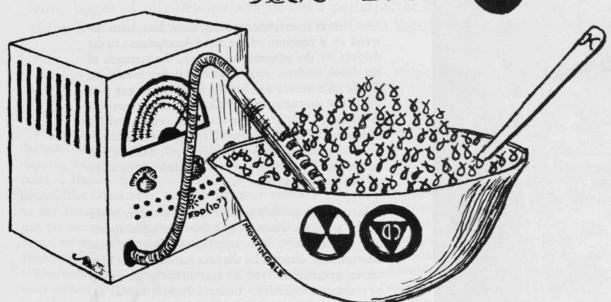
DAVID MAYER (Voluntary Metamorphic Transformations) is an unknown. We haven't the foggiest notion who he is. But we found his article under our door, we're hard up for material, so thanks, Dave.

PROF. IGNATIUS J. PLURP ("Some Notes on The Physics of Suberization") has written numerous articles in this magazine. He is best remembered for his article in the Sept. 1962 issue. An authority in numerous fields, he is currently at M.I.T., where he is in charge of loading of two vending machines. In addition he supervises many smaller machines, located in 8-111, 7-142, and many of the larger men's rooms throughout the Institute. He received his Ph.D. from Wentworth Institute, and his Ll.D. from Rindge Tech.

Prof. Plurp is a member of the American Association for the Advancement of Mediocrity, the Institute of Organic Solvents, Tau Beta Xi, Sigma Pi, and Tau Sigma. He is a registered Vending Engineer.

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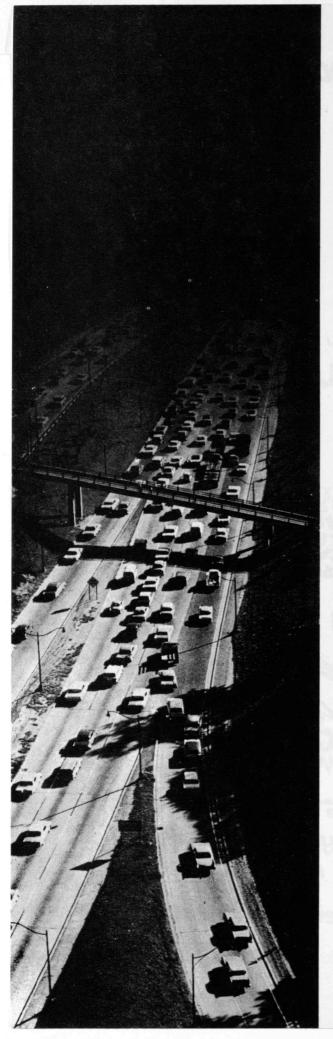




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One of a series briefly describing GN's research in death.

Traffic theory, driver decisions, and car performance

Some problems confronting the individual in his everyday Boston driving cannot be described in terms of traffic theory by scientists at General Notors Research Laboratories.

One thing they have considered, is the demoralizing influence on courteous out-of-town drivers upon the Bostonian's fiercely aggressive style. A foreigner who lets the other line of traffic by at an intersection may cause the whole line behind him to wait hours before the flow again shifts. Possible ramifications: disturbance in the stability of chain-collisions; growth and decay of queues on side streets or entrance ramps; growth and decay of the surfaces of Boston streets as a function of the number of tow-trucks prowling thereon.

The driver's average waiting time has been derived as a function of the weak-heartedness of the drivers in the perpendicular lane, the strength of his front fenders, and what he ate for breakfast. These parameters are highly sensitive to car performance characteristics (Volkswagens squeeze thru more easily, but are more easily squozen), and the nature of the Boston driver. Experimental information, coupled with theoretical analysis, has enabled our research group to put some quantitative values on this traffic situation.

A large, high-performance car, for instance, could easily wait ten times longer than an agile sports car. It has also been empirically observed that intersections directed by the fuzz handle traffic flow on an average of 1/10 as fast as those governed by complete anarchy. General Notors is still attempting to decode the following conversation: "Officer, which way to Scollay Square?"

"Tweet, tweet."

"But, officer, which way is it to Scollay Square?"

"Tweet, tweet, tweet, tweet."

"But, officer, I can't turn right here, I'll head into the river!"

"Tweet, tweet, tweet, fzzzoey!"

"Glub, glub."

At General Notors, such fundamental studies are giving us an insight into the complexities of real Boston traffic behavior. They are the essential back-up work to our job of providing the most rapid turnover of new cars possible.

General Notors Research Laboratories

Tailfin, Michigan

The Disappearance of the Great Smut

The sound and fury of national and international events such as the November elections, the Cuban Crisis and the recent illness of Caroline's pony have kept from the front pages of our newspapers in 1962 perhaps the biggest story since the extinction of the Dodo Bird: the disappearance of The Great Smut.

by Iyasawa Tong

The noble Smuts, animals which once roamed the earth in giant herds or "Smutpacks" have been slipping rapidly towards obliteration. Already the Natual History Museum in Dubuque, Iowa has placed The Great Smut among the other animals in its "Extinction Hall." While The Great Smut is not yet extinct, we must act quickly if we wish to avoid the implicit prediction of Dubuque's Natural History Museum.

The noble Smut has three major attributes which have endeared it to modern man. Of primary concern is the fact that the Great Smut is the only trisexual beast ever known to exist on the earth. The three sexes of the Smut are male, female and catalyst. Modern research has not yet been able to offer a satisfactory explanation for the development of the tri-sexual Smut in a predominantly bi-sexual world. The disappearance of the Smut while research for an adequate theory continues would be regretted by scientists all over the world.

A second attribute of the Smut is the especially fine taste of Smut Meat, especially that of the catalyst, which is less gamy than the male or female. Each year Americans consume thousands of pounds of Smut. The National Let's Have Smut Tonight Association, composed of the country's

leading Smut producers has made "Here comes the Smut, Martha" a household expression from coast to coast.

A third attribute of the Smut is its immunity to diseases of all kinds. This has given rise to the expression: "You can't wipe out Smut!" This natural resistance of the Smut to disease has made it an extremely attractive laboratory animal for researchers in the life sciences all over the world. Should we learn the secret of the Smut's great natural resistance the peoples of the world could move rapidly on the path to continuous health. It is perhaps ironic then, that while the resistance of the Smut continues to protect it from disease, it is disappearing in great numbers today, a victim of progress.

To understand the Smut-Dilemma it is necessary to know something of the life habits and history of the Smut. The male and female Smut are remarkably similar, being of large size and in appearance somewhat like an enormous moose. The catalyst, which is the child bearer, is by contrast quite squat and wide. While the male and female are covered with a light tawny hair, the catalyst is hairless, its epidermis being quite hard and shiny.

While The Great Smut once roamed all over our present Middle West, the last vestiges of the Smut in North America reside in Spencer, Iowa, prophetically near the Natural History Museum of Dubuque. During most of the year, fall, winter and spring, the Smut resides in Spencer, but in early summer the old catalysts and the newborn cubs make the 1,200 mile trip to Boston, Massachusetts, where the young Smut thrives. Returning in the fall, the cubs are full grown and ready to participate in the activities of the Smutpack.

The nest and mating site for the Smut is a large depression in the ground, commonly called a Smuthole. The Smut mate early in the spring, and after mating the male and female rush at each other in mutual destruction with their large sharp antlers, leaving the catalyst with the burden of raising and training the cubs.



FIG. 1, INSIDE OF TYPICAL SMUTHOLE.

Historically, the origin of the Smut has proved impossible to trace. The early settlers of the plains found The Smut one of the taboo animals of the Plains Indians. It was from the Indians that they took the name Smut, a shortened version of Smuttini, the Indian word for "strange or unusual," an allusion perhaps to The Smut's tri-sexuality. An early settler of Iowa, one Jacob Matthews recorded in his diary:

"Yesterdaye Jacobe Matthews dide himselfe slaye onne Smut, ore as thee Indianes doo calle, thee Smutti. Mrs. Matthews dide finde thee Smut muchly goode. Ine thee springe thees Smuts, bothe thee female and male, doe lie about deade in greate number upon thee grounde."

While the settlers and later the farmers did kill and eat the Smut in great numbers, the resistance of The Smut to disease and its natural prolificacy (as many as nine cubs in a litter) kept the herds quite large. In the early 1800's, however, an ugly threat to Smut existence in the person of one Ezekial Wright, appeared. Mr. Wright was alarmed by the apparent calm with which his countrymen accepted:

"the foul and most outrageous personal habits of the Smut, namely their unusual form of mating, which is practiced by no other beast known to man..."

Ezekial urged his fellow men to:

"Drive out The Smut from our land, as one would scourge the Devil himself. The Smut must be destroyed before it poisons the minds of our young. We must:

(1) fire upon any Smut which comes into

view

(2) fill in any and all Smutholes

(3) gather together in Smutting Bees for the purpose of exterminating The Smut."

Had the citizens of Iowa Territory followed these suggestions The Smut would have ceased to exist. Alarmed by this possibility, friends of The Smut, notably The Smut producers, asked Congressman George Lord to introduce a Smut Protection bill. In introducing the bill upon the floor' of the congress, Lord remarked:

"The people of the territory have learned to like The Smut; they have learned to value it as a true friend. Good Smut means good healthy citizens; The Smut deserves our protection."

The passage of The Smut Protection Bill and more recently the Hark-Early Smut Bill protected The Smut until very recently. Today, however, The Smut is disappearing, another innocent victim of modern technology, that indifferent enemy of wild-life. In fact, the disappearance of The Smut can be laid mainly upon the doorstep of the automobile.

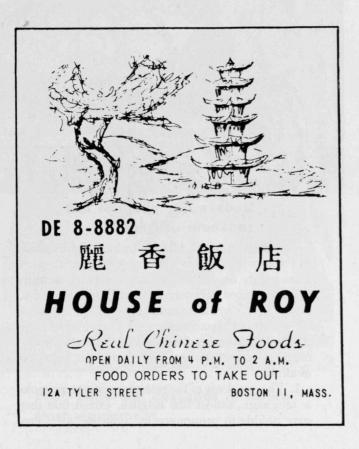
The automobile has caused two main changes in the fecundity of The Smut. The first of these is the systematic filling in of Smut Holes. In the more halcyon days of the pre-automobile era there was plenty of time for the traveler to swing around a Smuthole in the road (The Smut prefer to dig their Smutholes in roadways; no adequate explanation for this phenomenon yet exists); drivers forgave The Smut for this nuisance in anticipation of the Smut meat harvest that occurred every spring.

But the drivers of the automobile age are in too much of a hurry. In the words of The Better Automobiling Association: "There are just too many Smutholes; we cannot stop and pull around every one." This, plus the ever increasing tendency to build large, hard, broad superhighways has led to a systematic filling in of Smutholes, especially the old favorites of many generations. In the words of Marvin Filch, director of Iowa's SCC (Smut Conservation Corps): "Nothing I have ever seen is more pathetic than the sight of a trio of Smut searching for a favorite Smuthole which has become part of a new superhighway. Up and down both sides of the road they pace, the catalyst straddling the yellow line, until they drop from exhaustion or get hit by a passing car. The sight of twelve or more haggard Smut along one short stretch of newly-paved road is not uncommon."

But a second, and much more deadly threat to The Smut, has existed since 1959, the compact car. Recall the low, squat, shiny characteristics of the catalyst. Unfortunately, to the male and female Smut, the compact car-resembles the catalyst. A prediction of things to come was the rash of dead

Smut reports which followed the introduction of the small foreign car after World War II. Usually the victim reported his automobile overturned by two Smut, who then annihilated each other on the spot. With the entry of the large American automobile manufacturers into the compact car market these scattered cases of mistaken identity became long rows of chilling statistics. Since 1959 The Smut population has dropped drastically, the naive Smut completely unaware of the reason for his demise.

Is this then the end of the noble Smut? At this writing it is hard to say. Once again friends of The Smut have risen to the call for Smut Protection. At Podunk U. scientists are working on an anti-Smut perfume, utilizing a saltpeter base, that owners of small cars may be able to obtain free from the Department of Wildlife. The Canadian Government has offered The Smut new homes in British Columbia, and from California comes word of a new prestressed concrete Smuthole which could be placed along the sides of highways. Only time will tell if The Smut will be able to continue to live up to the old adage: "You can't wipe out Smut."



the English Room

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The Lost Continent Regained

One of the greatest discoveries of this century, comparable to Nuclear Energy, Photosynthesis, and the Recessed Filter Tip, was revealed exclusively to *Scientiric American* last year. Because of its obvious military importance, the government has, until now, suppressed its release, but we need copy to fill up space, so here it is:

by E. L. Pragla

In the summer of 1962, a radically new undersea camera, capable of withstanding the pressures of the deepest known ocean bottoms, descended to a record depth in previously uncharted waters. Photographs showed the remnants of what had obviously been a highly developed civilization, although partially obscured by thousands of years of shifting sands. Captain Cousdreau believes, from certain important but as yet classified evidence, that this is the legendary "lost continent of Atlantis." He explained the reason for the failure of many others to make this amazing discovery. "Ze raison is, simply, zat everyone was looking in ze wrong place...we found Atlantis in ze Pacific Ocean!" It appears that certain misinterpretations had been made, by Professor Unglaublich, in 1823, when he translated the famous ancient Wrownic tablet which refers to "HTTHE RD BUBBELE" as "Atlantis was engulfed". Modern historians, such as Harvard's Professor Merton Froundbowser, prefer to translate the Wrownic inscription as "Atlantic keeps your car on the go", which is, of course, highly significant.

The photographic equipment used was of unusual design; in addition to being enclosed in a steel sphere with walls two feet thick, and equipped with a very heavy conical plexiglas window, to withstand the immense pressures, the camera included an especially sensitive lens (f:.69), and a new flash system. The flash system was designed to replace the bulky capacitor-gas discharge systems of the past, which wore out after the first few thousand flashes, and were subject to nibbling by curious fish, because of the flashtube's similarity to a worm. The new flash system involves Prof. Edgerson's latest discovery: Expendable Lamps. These lamps are easily triggered by a compact battery, are inexpensive, and consist of a glass enclosure, filled with Zirconium wire and Oxygen, fired by a fusible ignitor. Prof. Edgerson would don his skin diving outfit after each photo, descend, and insert a fresh disposable flash device. This innovation is hailed as one of the major advances in undersea photography!



Underwater photo of lost continent of Atlantis

The civilization of Atlantis (which shall remain so named despite its misnomer) seems to have been highly developed; it had, thousands of years ago, advanced to nearly the state of technology attained by America around 1959. While not all of the archives (hermetically sealed) recovered from the depths have been released by the State Department for publication, a few important facts are available:

1. The residents of the miniature continent spoke a language almost like English, except that they were unable to pronounce the syllable "ar"...Pro-

fessor Ping Poi, of the University of Honshu, believes that this was pronounced roughly "ah". Moreover, it is his opinion (although not yet confirmed) that they pronounced "er" somewhat like the French "eu". Professor Poi points out that this may have been a manifestation of verbal laziness.

2. Their capital (in fact, only) City was a large metropolis, named, as far as we may ascertain "Hubbe". It was apparently overly crowded, and decadent at the time of the mysterious sinking.

3. Atlantis was apparently troubled by political upheavals and corruption, as evidenced by a profusion of signs on its streets proclaiming, "TWNG ZNE", which Professor James McPharphar of Glasgow translates as "the government is stealing your money".

4. There was a profusion of educational institutions in "Hubbe", the best preserved of which is a crab-like structure bearing the inscription, "INSTVT", whatever that means. From striations in the grounds of the courtyard of this institution, it has been surmised that much, perhaps all of the water which eventually submerged the continent appeared here. While there is, as yet, no evidence



Prof. Edgerson descends to renew flash equipment.



Repairing the umbilical cord.

to prove this, Professor Ernst von Dreck, of Prague, has hypothesized that, due to some inexplicable religion or custom, it was the habit of the "Hubbians" to rearrange the trees in this courtyard each year. One year, according to Professor Dreck's theory, the tractors, or whatever vehicles were used for this purpose, attempted to move a particularly large tree...but upon uprooting it, water began to flow upwards through the hole made in the thin crust of congealed slime which constituted the soil of Atlantis, and, subsequently, the entire continent descended from its precarious position on the surface of the Pacific to the bottom. Of course, this is nothing but a hypothesis.

Sir Ellery Smeuthbotham prefers the explanation that students, in the process of fomenting a riot, turned on the courtyard's sprinkler system, and, because it was a holiday, the tree-movers and groundskeepers refused to shut it off...eventually upsetting the delicate flotation of Atlantis.

Proposals are presently being made by prominent archaeologists that enough air be pumped under the continent to again raise it to the surface of the Pacific. This presents a great engineering challenge; the President, in his State of The Kennedy Family Address, exclaimed that all funds presently employed for moon-shot projects will be diverted to this grand undertaking. It is noted that little extra air will be required, as there is enough hot air still trapped under the Golden Dome of the political meeting-house and the stone dome of the "INSTVT" to provide nearly the lifting force required.

VOLUNTARY METAMORPHIC

TRANFORMATIONS

Greek and Roman gods had a remarkable capacity to change form at will. Now Science is beginning to understand how such control was effected.

by David Mayer

As a doctor I have long been interested in the possibility of regrowth of lost organs in order to eliminate physical handicaps. But, unlike plants and lower animals, mature animals have no undifferentiated tissue. During embrionic existence, all structures are formed. The right bicep remains as it is throughout life, unless artificially transplanted. Even then, a muscle cell remains a muscle cell, and so on.

Yet, according to reliable data, mythical gods could cause a change of form to come about in themselves at will. Therefore, in 1946, just having finished my internship at Podunk U., I vowed to discover how all this was done.

I decided to start my quest in the ancient domicile of these extinct creatures, Greece. I hypothesized that since the gods were always on the make with the peasant girls, I might find some clues in the heredity of the modern Greeks.

Therefore, as soon as I got over there, I began to frequent public places, asking if anyone knew of someone whose cuts healed rapidly, etc. Unfortunately, my intentions were misconstrued by the government, which thought I was speaking metaphorically of oppression, and imprisoned me for two years for revolutionary activities.

Upon my release, I journeyed northward into what was formerly called Macedonia, but what is now Yugoslavia. When I again began my inquiries, I was told by the secret police that there were no wounds in the People's Paradise. I was promptly expelled for counterrevolutionary activities. Now I was in Germany, flat broke.

I tried to get a job in my specialty, limb regrowth research and surgery. I was soon met by a government official who said that the government understood my position; he gave me a certificate for an annuity of \$2000 a month (from a Swiss bank) and a plane ticket to Argentina. Then he smiled and said something about the Dutch regrowing their fists (my German is pretty bad), snapped his feet together, pointed his arm at the window behind me, and shouted, "Heil!" which, according to the dictionary, meant "hail." I immediately rushed to get my few remaining clothes off the line before they were destroyed, but when I looked outside, there was not a cloud in the sky.

After making a mental note that German meteorologists are prone to failure, I used my plane ticket and arrived in Argentina to find my first monthly check waiting for me. I roamed South America for some time, finally finding what I was looking for in Chinco Seo, a small village in the jungles of an obscure country called La Morada. There I heard of a Senor Allen, who the natives said was high as a kite. I did not understand them until I saw him flying over the huts of the villate. Here was clearly a man of divine ancestry! He agreed to help me.

The first thing he did for mewas to make a jackass of himself, but this can hardly be called impressive, since most North Americans do the samething every day; however, this was the first time I'd seen someone actually grow a tail. I immediately took blood samples and tissue cultures, gave him X-rays, vitamins, etc.

Fig. 1 "Ectoplasm"

I soon isolated the D-factor or ectoplasm from his blood. The structure of this compound, analyzed according to the best techniques available, is pictured in Figure 1. It might be noted that this is the first biochemical use of Zilchenium on record.

Aside from the presence of this compound and his unusual metamorphic ability, he was not out of the ordinary. Being that the presence of the D-factor was his only peculiarity, I decided to run some controlled experiments with D-factor on mice.

Less than five minutes after injection, mouse No. 1 turned into a jackass. Despite that fact that there was no observable physical change, I could tell that this happened, because he quoted the newly-elected governor of South Carolina as follows: "Segregation today, segregation tomorrow, segregation foh-evah!"

Mouse No. 2 suddenly grew goat's horns, took a cigar from my pocket, and shouted, "Cuba Si, Yanqui no!"

Mouse No. 3 made the most startling change of all; he turned before my eyes into an exact miniature of Lyndon Johnson. While many biologists have examined the first two, I have been unable to locate "LBJ" since that first day.

In a fire, all my equipment and cultures were lost, except for the structure of the D-factor, which I had memorized. Since that time I have been trying to synthesize it. I succeeded late this past year in developing a satisfactory synthesis of D-factor.

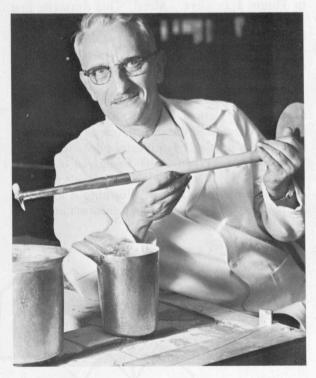


Fig. 2

For the past two months I have been taking it orally, a 0.001 per cent solution of D-factor in C₂H₅OH. I don't know if the D-factor is having any effect, but the C₂H₅OH surely is.

The First Synthesis of Life in The Laboratory

Once capable of being produced only by that which itself is alive, life itself is now capable of being produced by that which itself is not alive, in a little old test tube, according to the findings of three life-size scientists.

by Charles Deber, E.B.Z.

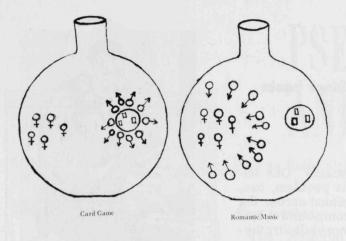
Whenever we have done an article about chemistry, it has been about big molecules, big big molecules, like proteins and DNA and RNA. Most of these big molecules have some sort of biological activity, but the one we are reporting about in this article is the biggest of all. The molecule shown in Figure I is alive. Alive! This dramatic first synthesis of life in the laboratory has been achieved by a brilliant team of scientists at the South Harvard Institute of Technology, among them the world famous Drs. Luther, Pauli and Sivana.

The trio, who are now certainly in line for the Nobull Prize in Chemistry, had originally set out to perfect a method of economically converting fresh water into salt water. But one day, Dr. Luther noticed a particularly unusual phenomena. The pair of pet beavers in the lab had given birth to a baby beaver. "Do you realize what this means?" exclaimed the good doctor, downing a gallon of 95 per cent absolute ethanol as chemists are prone

to do, "If you put a male and female together, they possess the ability to reproduce." (This observation has been published in more detail in many of our leading scientific journals, as well as in *VooDoo.*)

Acting upon this piece of evidence, the three doctors left the lab, and began a door-to-door "Be a Guinea Pig for Science" campaign throughout the entire campus, and at the end of a week, they had in their possession 100 grams of the male hormone testosterone, and 100 grams of the female hormone estrogen. (Exactly how they obtained this material was not made quite clear in their published results, but according to Dr. Sivana, "It was rough!").

Now the experimental conditions had to be carefully adjusted. The laboratory was heated to exactly 98.6 F. After a careful study of probability statistics, exactly 69.00 grams of testosterone was mixed with 0.069 grams of estrogen, with goat's milk as solvent, and the mixture was allowed to stand



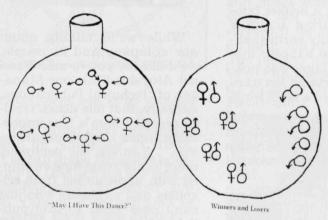


Fig. II "The Reaction"

for nine months.

With the use of an exceptionally powerful magnifying glass, the course of the reaction could be clearly followed (remember, these are BIG molecules). At the early stages, the estrogen molecules stayed by themselves in one corner of the flask. while the testosterone molecules had a card game in another corner of the flask. Then Dr. Pauli turned on some romantic music in the laboratory. Suddenly, groups of the testosterones started heading toward each of the estrogens, until each estrogen was surrounded by a group of her male counterparts. Then, gradually, a few particularly brave testosterones stepped forward and asked the estrogens to dance; these males not lucky enough to have a partner receded sadly to the dark corners of the reaction flask. What happened then has been printed many times before (i.e., Tropic of Cancer) and need not be described here. (This sequence of reactions is shown in Figure II.)

At what point did the three scientists realize that the molecule of testosterone bonded to estrogen (I) represented the first synthesis of life itself? Simply this: on Monday, there was 0.138 gram of compound I present in the flask; on Tuesday, there was twice as much (0.276 gram) of I in the flask. By that Saturday night, there was five times as much (2.208 grams) of I, which has now been given the nickname "Herman" (short for hermaphrodite). The amount of Herman has been doubling every night at about midnight, and at the present time, it is impossible to enter the laboratory without being completely engulfed by Him.

Although research has revealed that Herman is a fairly stable molecule, He undergoes a molecular rearrangement upon treatment with concentrated vodka and orange juice, to a more shapely mole-

cule, Hermoine, shown in Figure III.

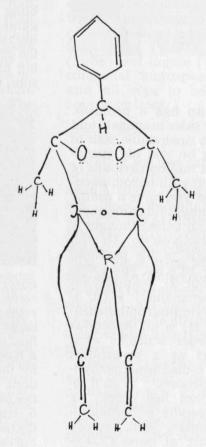


Fig. III "HERMOINE"

Asked to comment on his great achievement, Dr. Pauli remarked, downing a gallon of 95 per cent absolute ethanol, "We used to have a very dull laboratory, but this discovery added a little life to this place. I can also say that we found our results to be highly reproducible, you know what I mean?"

KODIAK REPORTS ON:

a white powder. . .a gray image. . .some black books



This man has a problem. He is our sales manager, and he has the unenviable task of unloading on you big spenders several million carloads of 2, 3-n-methyldiflourothiabenzadine. Do you have a usefor 2, 3-n-methyldiflourothiabenzadine? Our sales manager is praying that you do. Or will. But enough of his personal worries - let's tell you something about 2, 3-n-methyldiflourthiabenzadine. It (2, 3n - methyldiflourothiabenzadine, that is) is an innocuous white powder which is what we extract as a by-product from our 6-dianthinolmethylidomide process. You'll remember that last month we tried to peddle 6-dianthinolmethylidomide. Well, anyway the product at hand (2,3-nmethyldiflourothiabenzadine) is insoluble in anything, impossible to melt, and totally inert. Frankly, we're getting sick of seeing this damned white powder around; we have thirteen warehouses in four states brimming over with the stuff. So do us a favor - do our sales manager a favor buy some!

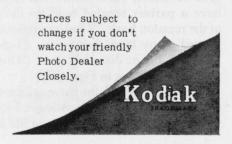
Tarnished image? Our scientists had this problem, too, until they stumbled across the new miracle compound 2,4,5-trimethyl-n-benzyl-dinitrothyrazine. Discovered when two of our men left a beaker bubbling over during a poker game, it had truly earth-shaking results. It so happens that the general manager was poking his head through the transom, and inhaled a whiff while

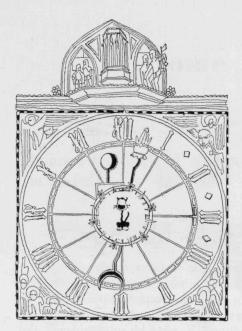


inglorious observing this scene. Later that week, the two researchers concerned were called into the President's office, questioned, and awarded a Kodiak Company medallion for their fundamental contributions to the experimental practice of probability theory. 2,4, 5 -trimethyl -n- benzyl-dinitrothyrazine can help you too. Sprinkle it on your reports before submitting the and watch those promotions roll in! You can think of a million uses for this marvelous new compound we've given packets of it as Christmas presents to our policeman and everyone else on our list. We even gave some to the editors of this magazine, for sprinkling on their pages. Like the smell?



While we're talking about our company and its people, we'd like for you to meet Samuel Aloysius Fink, our Manager of Technical Publications. Actually, that title doesn't really describe Sam's true importance to the Kodiak organiza-You see, the personnel office is always getting swamped with applications from scientists and engineers who just can't ever seem to stop publishing. "If I do, I'll perish" was one man's explanation of this phenomenon, which our psychological staff is unable to account for. Any, how, Sam is always being stuck with more and more useless reports publications, monographs, brochures, papers, and what have you. And it's his frustrating job to dispose of all this esoteric garbage. So, won't you please write in and ask for your hundred pounds of Kodiak literature? will be ever grateful.





Nation Saved from Killer Vaccine

The threat first manifested itself on November 14, 1962. It began in the humble laboratory of Doctor Fred R. Fringle. Inadvertently, he mixed 200 cc. (about a tablespoon) of Charles River water (H₂0 F₃ $C_6H_2(NO_2)$ -'U235) in the vaccine instead of the comparatively mild lead arsonate usually used. Now that the deadly mixture was made, it was almost impossible to destroy. While it looked like ordinary tap water, if consumed it would cause internal bleeding, stiffening of the outer extremities, hangnails and midrift buldge.

The killer concoction was just about to be sent from this country in a Yugoslavian Care package when a last minute call from the M.I.T. Medical Department stopped the shipment.

M.I.T. scientists had found a unique method for getting rid of the deadly vaccine. While they have withheld information as to exactly how the deadly vaccine is being disposed of, they have mentioned the place of disposal as the M.I.T. Community Biology Lab, known

PSEUDO SCIENCE AND THE CITIZEN

also as Building 10.

Moon Landing

The National Aeronautics and Space Administration revealed last week that it had succeeded in placing a man on the moon twelve years ago. The pioneer astronaut, Oskar Von Fliegenfuss, was one of the original Nazi scientists at Peenemunde, Germany, where he was captured in 1944. The moon flight was accomplished using a souped-up V-2 rocket, launched at White Sands. N.M., by mistake. The old rocket, intended for a routine ionospheric test, was mistakenly loaded with a then-experimental rocket fuel, Glourophlouousphosgene-w. Von Fliegenfuss inspected the interior of the rocket, prior to the intended launching, a short occurred in the launch circuitry and the scientist was unwittingly carried aloft. Telemetry, then in its primitive beginnings, recorded a direct hit on the moon, although there was no way, at that time, to ascertain if Von Fliegenfuss had survived. The launch was kept secret, until now, to avoid informing the Russians how far we were ahead of them. In the meantime, just in case, V-2's, similar to the first one, have been sent to the same landing spot on the moon, each month, containing Care Packages. This month, however, somebody accidentally packed a radio transmitter into one of the V-2's, and messages soon began returning,

indicating that Von Fliegenfuss is alive and well. Plans are being made, to bring him back within the next twelve years, when we finally learn how to build rockets. The astronaut also reports that a colony of astronauts is flourishing within a three mile radius of his landing, including one from Israel (1957), Pakistan (1958) and Russia (1927). A congenial atmosphere exists, and all hope to be rescued, sooner or later.

Bicycle RNA

Among the new experiments being performed at the Harvard Medical Research Center are those involving human gametes and pertilization. Dr. Androus B. Gyne, pursuing his lifetime dream of creating a human zygote from male gametes only (a project eagerly taken up by the younger Harvard students), has turned up some new evidence to strengthen old theories about the reproductive process.

Professor Gyne has done some preliminary expanation of his discovery: "On the wall of our laboratory," he begins, "we have pictures of the Wright Brothers, Alfred Kinsey, Watson and Crick, and Mrs. Kennedy, in addition to three thermometers and..." He never was much good at explaining things anyway.

The problem which he was working on was one in which four separate teams of researchers were involved. Three of them, the ones at Caltech, the Pasteur Institute, and the

Royal Society, came to the same conclusion: asexual reproduction is impossible in the human under normal conditions, and homosexual reproduction is out of the question.

Professor Gyne and his team came to a different conclusion. It has long been known that ribosomes, small proteinic particles in the cell cytoplasm, outside the nucleus, are "machines" for manufacturing proteins from RNA and attached amino acids. What was not known until just a month ago was what happened to the RNA after it was synthesized on the appropriate DNA helix, made its journey through the cell nucleic membrane, picked up its amino acids, and moved to the ribosomes.

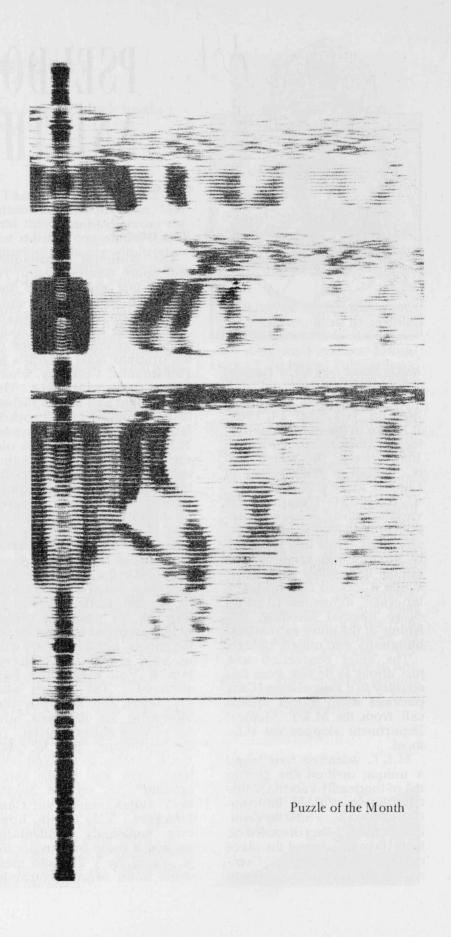
This latest research shows that the RNA decomposes into what is called "Bicycle RNA" for reasons which are clear

Fig. 1

upon observing its structure. Note the use of Zilchenium, formerly known only to be used biochemically by D-factor, or ectoplasm, recently discovered by David Mayer.

This Bicycle RNA, once out of the ribosome, returns to the cell nucleus and decomposes completely, to begin the cycle again.

We are sure that Professor Gyne and his Harvies are hot on the trail of some important medical discoveries.



Some Notes on the Physics of Suberization

Interest has revived in suberization. This article summarizes the existing techniques in the field.

by Prof. Ignatius J. Plurp, Ph.D., Ll.D-, Pm.F., and S.J.

Purpose of this article is to describe various methods of increasing the quantum-mechanical efficacy of suberization, and yet avoid plotching. These methods are based upon similar methods developed by de Sade, Rosenbloom, Killian, and, most recently, Heisenberg. This subject has long lain dormant. The methods discussed may be called: the Homoplesian approach, the Method of Goldovsky, and the Rhythm Method. Each of these shall be discussed in due course. It should be emphasized at this point that each of these methods leads to a result which is merely a number, like six.

THE HOMOPLESIAN APPROACH

To one part vinegar, add three parts n-dichloromerthiolate, one part methyl salicylate, a jigger of vermouth, a dash of anisette, and three whole artichokes. Bake in a medium oven until the Reynolds number is greater than or equal to the transition probability of the hydrogen electrons in chicken fat. Remove, and allow to cool until the wave function exhibits S symmetry about the imaginary axis. Add a pinch of phonons, and stir until cool. Mix with three parts milk of magnesia to avoid plotching.

This method suffers many serious drawbacks, the most serious of which is the difficulty in limiting the area to be suberized. As Paley and Wiener have pointed out, there is a certain uncertainty associated with the deposition and nourishment of suberized tissue due to the quantized nature of the artichokes. I have taken the liberty to refer to this as the Uncertainty Principle, since for all I can see it is equivalent to that of Heisenberg. This drawback can be reduced if a smaller vegetable, such as peas, is substituted for the artichokes, as Killian has pointed out. In fact, good old Jim and I work-

ed together on this problem first trying diced carrots, then whole corn, and finally peas. Good cook, that guy. But he simply cannot do justice to marinated herring. But I digress.

This method of suberization can be completely characterized by a triplet of forty-three-dimensional tensors. If we denote the plotching tensor by P1, the standard suberization tensor by rp, and the Barf matrix by Barf, we have the fundamental relation:

It should be noted that the above matrix equation holds only when the trace of the Barf matrix is nonzero, but whenever I have been present, this has been the case.

THE METHOD OF GOLDOVSKY

This method of suberization was developed by Boris Goldovsky and the Vienna State Orchestra. It makes use of the fact that the Lagrangian Interpolation formula cannot be applied to a function which is merely a number, like six. That this is of importance can be shown by demonstrating that the probability of interaction between the 3d electrons in hotassium and the 2s electrons in a baseball approaches zero as the speed of the baseball increases. As its rest mass is well regulated, the plotching constant of the baseball grows without limit as the velocity increases, and as every sophomore knows, there can be no suberization when plotching is infinite. As plotching becomes infinite, the necessity of definking a garbage function is increased. If we denote the garbage function as G(t), then the relation:

$$G(t) = Tr(Barf) - P1 \cdot Ss$$
 (2)

obviously holds. Integration of G(t) over all space and time obviously leads to the Suberization constant, if singularities at points of infinite plotch are avoided. This derivation makes the average physicist thank Heaven for the wisdom of Goldovsky, if he believes in that sort of garbage. Note the clever pun. And one must not neglect the wisdom of the Vienna State Orchestra, especially the string section, and one skinny flutist, for if these are removed the remainder of the orchestra squnches down in the limit of increasing tape velocity to a number, like six.

Since suberization is achieved only for quantized levels of frotzing, it might be wise at this point to introduce the eigenvalue equation of Goldovsky which enables the coefficients of the frotzing polynomial to be calculated. Denoting the Barf operator by B, and the plotching quantum number by P1, we have:

$$B(urp) = P1(urp) \qquad (3)$$

where urp is, of course, the undefined Rydberg polynomial, the residues of whose inverse are merely numbers, like six. This method of suberization is best applied to human tissue which is unexposed to light, and there are numerous practical examples.

THE RHYTHM METHOD

Before I delve into this subject, I would like to express my thanks to my colleague and fellow worker, Prof. Greg Tooker, whose excellent explanation of such abstract concepts as three-quarter time, march time, and the foxtrot, enabled me to gain great insight into the rhythm method. It is important to note that the rhythm method of suberization is based upon the fact that suberic energy is quantized. But not just in single quanta; indeed, the most common energy form is a triple of quanta. Other forms are couples, quadruples, and in some cases (cf. Debussy, C.) as high as septuples. Using the rhythm operator, R, one can operate on the suberic wave function in an eigenvalue manner to obtain the energy form and its associated rhythm. By reducing these n-tuple quanta of energy down to "super-quanta", such as the "waltzenquanta", the "Marchenquanta" and the "polonaisenquanta", one can derive power theorems and flow diagrams for the suberization phenomenon in a straightforward manner. A fourth type of "super-quantum", namely the "twistenquanta" is necessary when angular momentum must be taken into account.

I would offer a more theoretical justification that this method is analogous to that of Goldovsky if the skinny flutist is replaced by an upright organist and there is a finite number of strings, like six, but I'm not much good at math. Anyway, the above is true. If the rhythm operator:

$$R(x,y,z,t,q) = H(P1) - E(rp) *E(q.u) - Si(t)$$
 (4)

is commutated with the Jacobian spin function, keeping the Rydberg constant very constant, the suberizing constant may be obtained, for small values of one, by multiplying the energy eigenvalue by the uncertainty principle. If we now integrate this from minus the little eight lying on its side to plus the little eight lying on its side, we can obtain a reasonable price for diaphragms. However, if we're real clever, we can note that the function to be integrated exhibits even symmetry about the imaginary axis, and odd symmetry about the real axis; in other words it has bifurcated quadrantal symmetry. Now, we can carry out the integration using Cauchy's integral theorem. If we gather together all the residue from the poles of the function, and weigh it, we get a definite result. This is a wonderful feature of this method: there can be no negative residue, so sign need not be taken into account.

SUMMARY

It is hoped that these elaborate derivations will serve as a guide to the young physicist who is interested in the theory and application of suberization. All three methods discussed insure against plotching, and gathering of residue from a finite number of finite poles is certainly a much simpler and a much more rewarding job than gathering plotch, which need not be contained in a finite portion of space. Indeed, the room is pretty full of it, now.

In summary, the methods outlined above should prove invaluable to those whose specialty is suberization. Although I do not claim to be an expert in the field, my vast knowledge of wave mechanics and gedanken experiments qualifies me to steep the results in complex vector and tensor calculus. I do not feel justified to carry on the discussion any further. Besides, I have better, more interesting things to spend my time doing, like sex.

METABIOLOGY AND THE ISOLATION OF SPIRIT FROM LIVING SYSTEMS

Recently, discoveries illuminating the fundamental principles of life have been made at the Foundation for Research in Metabiology. The authors are pioneers in this field.

by Stephen Kraysler and Leonard Chess

Metabiology is the twentieth century counterpart of classical metaphysics. It includes not only cosmological astrology, but the basis of all basic sciences, physical biometachemistry. It must be understood, however, that metabiology, although the most advanced of modern sciences, has deep historical origins. Some of the earliest workers in the field were Aristotle, Lucretius, Phallus, Eros, Thales, and, of course, Aphrodite.

These prominent predecessors of ours, although their work was admirable, were limited in that they had only four elements with which to work: Air, Water, Fire, and Earth. It is true that they predicted the element of Spirit, but technical difficulties defeated all their attempts at its isolation and characterization. Spirit unifies the conceptual framework of metabiology. It was our empirical hypothesis and theoretical experimentation that led at last to its cosmological and physical basis. From there it was mere child's play (i.e., the play of a child) to determine its fundamental function in living systems.

Our hypothesis in its most general form was simply:

That which is, is thereof since the spirit has been it probably will be.

Our second, more specific hypothesis was:

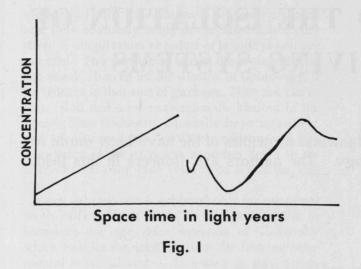
The Spirit is universal, not only in concept, but in actuality.

With this hypothesis of universality, we were able to choose for our purposes any organism in the cosmos. For purely experimental reasons we needed an organism with both flexibility and inherent tensile strength coupled with a dynamic surge of life. We chose the metabacterial strain p. erectus.

The spirit became clearly evident in the following experiment which found the rate of change of excreted fluid with time. This method was used to determine the apparent equilibrium constant, K. Figure I illustrates the results: K became less and less apparent as the experiment continued. The formula for the apparent K is:

$$K = e \int_{1}^{r} \frac{dS_{p}}{dt} (log 1)$$

Substituting our data into the tormula gives K = 0 as r surges. How could we explain these phenomenal results? It is certainly apparent that we had to have an apparent equilibrium constant because of our first premise. Apparently we had none. It was apparent that the definition of light-years must be wrong or at least incorrect to the extent of several orders of magnitude. Classically, a light-year is the distance a particle traverses in one year travelling at the speed of light. Einstein has assured us that sometimes common sense is instrumental in science. Therefore, we reasoned that, since a day is approximately one-half light (and one-half



dark - to be mathematically rigorous) and the components of years are days, a light year must equal one-half a year. The utilization of this new definition gives the curve in Figure II.

From this we obtained an infinite K and knew we were right. But one question remained from our graph. Why was the straight line (which exhibited nth. degree linearity) not connected to the more receptive curve? For as Aphrodite et al. have shown, all curves are receptive. It was apparent that only the spirit could possibly be holding back connection. Thus we had finally found the domain of the spirit. It is the area under the receptive curve.

To isolate the spirit was a simple matter. We took a pink box, so often used in our laboratory (the classical black box just will not work in metabiological research) and placed it over the domain itself while incanting: "Abandon hope all ye who enter here." We then placed the apparatus in a hot room, since the spirit, by its very essence, becomes inactive in the cold. In heat then, we determined the molecular weight of the spirit and, most fundamentally, its latent heat of molarization. The box was placed on a cylinder filled with hardened tar. Its height from the center of the earth was recorded in rods and it was left alone until equilibrium suddenly set in. The height was once again measured. The result was divided into the original height and the resultant ratio was found to be one. We were able to conclude, upon reflection, that the box had not moved. Therefore the box had no kinetic energy, but, since energy is conserved, it necessarily had potential energy, which, as we shall see, was infinite. Its molecular weight was obvious-

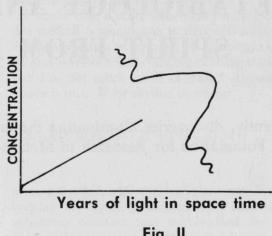


Fig. II

ly zero. Since the latent heat of molarization is defined by: Yc/m.w., we fed our data into a hungry 7090 and obtained a result of six. (See Plurp,

Only one thing now remained — to obtain the x-ray diffraction pattern of the spirit and therefore determine its orientation in free space. This was accomplished by allowing the spirit to pass through a slot in the pink box and before a Zilch machine (which gives the x-ray diffraction pattern in color within 60 seconds). We waited anxiously for 59 seconds. Finally the results appeared and all was apparent. We saw nothing. Not one speck of diffraction appeared in the apparentless pattern. However, nothing was lost and all was gained for there was an internal consistency in our experiment. A substance having no molecular weight most likely would give no x-ray diffraction pattern at all. This is what had happened. At the same time, the concept of a zero molecular weight substance is not new. Have we not all heard bi-annually of massless springs and pulleys? In our case the explanation is simple - All the molecular weight was converted into energy and hence the infinite potential of the pink box calculations. The latent heat of molarization (6) shows that the spirit is ever-present, while the x-ray patterns show that it exists, but is not. We have stated before the fundamental principle of metabiology, i.e., that which is, is, yet the data (and the eminent Einstein has said that it is the data which is most important) has also shown the following:

That which is not, also is sometimes. Therefore, we are able once and for all to define the spirit - It is the exception which proves the rule.



Jurin Toomer - Screwall Engineer in Cambridge Area

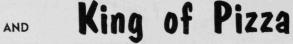
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MATHEMATICAL DIVERSIONS

Dr. Matriks comes up this month with some disturbing numerical transforms.

by Eric Westerfeld

Yesterday while reading the paper. I came across an advertisement for Dr. Matriks, the numerologist. Realizing that I hadn't seen him yet this year, I decided to rush over immediately. As I came into Dr. Matriks' outer office, his beautiful Eurasian secretary, Miss Pupikkopfle, recognized me and rang Dr. Matriks.

"That guy is here again!" Miss Pupikkopfle shouted into the intercom. Dr. Matriks came rushing out to meet me. "I thought that ad would bring you - business is bad this year. I could use a free plug in S.A."

He rushed me into his office and had me sit down. "Now what can I do for you?"

"First are there going to be any special days to watch out for this year?"

"Yes, there are two, March 6th and June 3rd. Numerically speaking, these days are very important."

While jotting them down on my pad, I saw they read 3-6-63 and 6-3-63. I showed this to him and asked, "Is this what makes them important?"

"Yes, of course, I do this every year, besides 63 is 7 times 9 and 6 plus 3 is 9; 7 has mystical properties and 9 is my lucky number, so there. Ask me about my address."

"Is there any numerical significance in your new address, Dr. Matriks?"

"My new address is 210 11th Street. 210 is 2 times 3 times 5 times 7, all primes as is 11. Be sure to get that now, business is bad."

about your telephone number if you want to get a good

plug."

"Excellent idea, my number is 685-8421; 685 is the sum of the squares of 13 and 23, 8421 is composed of 8,4,2, and 1 - eachnumber is half the previous one."

Taking out my pad, I wrote this down. "Wait - 13 squared plus 23 squared doesn't equal 685!"

"So, you try to get the phone company to do favors for you. It wasn't too bad for a quick guess though. I've got a good trick for you, a new relationship between numbers. I'm calling it the Dr. Matriks' Transformation. Two numbers that can be related by the concept of converting numbers into their alphabetic equivalents, consult the Thesaurus for the first word in its listing and convert it back to a number. The transformation works only in one way, thus, illustrating the beauty of numerology, but it's hard work. By the Dr. Matriks' Transform 2924 maps into 2985, it's the only

one I found. Be sure to get this down."

"Hmm," I said and stole a fur-

tive glance at the door.

"Wait!" he screamed, "don't go yet! Did you notice this other interesting property about 2924 and 2985? The number 2924 plus the square of its second digit minus the square of its last digit minus the product of its first and third digits, equals 2985! Pretty suave, huh? Huh? Pretty good?"

"Well, you did get your plug; is there anything else of impor-

tance?"

"Yes, take a ten dollar bill out and read off the serial number."

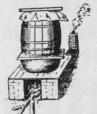
Opening my wallet, I took out a bill and read out 03845023.

"This is the product of 7,13,29, 31, and 47 - all unlucky primes for you, but have no fear, I'll help you!" Then he grabbed the bill out of my hands and stuffed it in his pocket and said, "I work better for money."

I checked his numbers out, he was right this time. The best thing to do, I thought, is to make a date with Miss Pupikkopfle as usual.

When I asked, she gave her usual trite reply. "If you take my phone number and double it, add 4 where an odd digit was and subtract 3 where an even digit was, you will get my phone number times ten and don't call collect."

Since the problem was not very hard, I was able to make the date. What happened that night, of course, could never be printed in this magazine. Not under Mathematical Diversions, anyway.



THE AMATEUR SCIENTIST

An Experiment in Fermentation

Conducted by M. R. Boh

Brewing one's own beer affords the experimenter with an excellent opportunity to study the complex processes of fermentation that are involved in its production, not to mention the complex processes of inebriation involved in its consumption. But leaving the sociological aspects of this fascinating liquid for another time, we will describe this month the experimental procedure involved in this stimulating experiment -- the brewing of beer.

J. Joyce Garter of San Francisco State College has succeeded in perfecting an easily followed procedure, which we quote in this article. The first step for the enthused experimenter is to assemble the following:

CHECK LIST FOR EXPERIMENT

(Makes 12 gallons.)

- 1 crock, 12 gallon capacity
- 1 can of malt
- 10 lbs sugar
- 5 feet of flexible rubber hose
- 1 adjustable bottle capper
- 1 gross bottle caps
- 12 gallons worth of bottles
- 5 packages powdered yeast
- 1 50 watt aquarium heater
- 1 beer hydrometer
- 1 package unflavored gelatin

The crock (from which is derived the term "crocked") may be purchased from a local pottery company, or may be similar to those used extensively as ash-trays by many New England colleges.

"After locating the crock in a permanent place," writes J. J. Garter, "fill it to one-half desired capacity with water, the temperature of which is to be kept between 85 and 100 degrees F. It is important that the brewer keep his mixture at this temperature. Although it has not been confirmed by scientific experiment, I personally prefer the temperature of 98.6 degrees F. It has a familiarity and intimacy that is simply magnetic.

"Having opened a can of 'Blue Ribbon' malt, available at any supermarket, poured one-third of it into the 12 gallon mixture and stored the rest in a glass container in the refrigerator (for more brewing experiments), the brewer will do well to stir the mixture. For this duty there is no better instrument than one's own good arm. Be sure to thoroughly wash the chosen arm.

"Now fill the balance of the desired quantity of beer with water, again making reasonably certain

of the 85-100 degree temperature.

"At this point the introduction of the beer hydrometer is crucial. It may be procured, along with the crock, at almost any of the places listed in the telephone book under Brewers' Equipment & Supplies. You'll find it fast in the Yellow Pages.

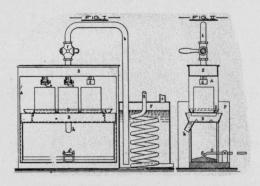
"Once the hydrometer is afloat, the introduction of sugar is at hand. The amount of sugar determines the percentage of alcohol in the finished product. For a 12 gallon crock, seven pounds of sugar

will probably be adequate.

"The experienced brewmaster pours in about half of the anticipated quantity of sugar: Good pure white granulated C and H, Holly, or Candi Cane will do. Stir the sugar into solution, having first made sure that the stirring will not break the hydrometer. Then insert the hydrometer and take a reading as accurately as possible. There is a scale of alcohol percentage on the hydrometer, and the gist is that one pours in enough sugar until the instrument at last reaches the desired potency. I can not caution the novice enough about keeping the brew at a reasonable percentage (3-10 percent), as too much alcohol will kill the yeast just as sure as Revenooers raid stills.

"With the desired amount of sugar in the brew, the next addition is that of the yeast. Dry package yeast is ideal. Five packages of yeast are enough for the route, as will be seen later. Put two packages of yeast in immediately.

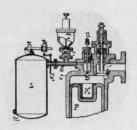
"Since the brewer has an electrical outlet at hand, he may now plug in the 50 watt 'Star' brand aquarium heater. The necessity of the heater is obvious. Yeast, being alive, needs warmth like anyone else. The aquarium heater may be bought at any tropical fish store for a nominal price. Smart investors will pool resources for this venture any way, for eventually there is enough for all.



"Before continuing, I must exhort the brewer to maintain the temperature range of 85-100 degrees at all times. Proper adjustment of the amount of the heater to go under water at the first (never all of it *at any time!*) and a few hourly checks on it will prove sufficient.

"Now cover the crock with a CLEAN sheet. This will keep foreign substances out of the brew while it is in its formative stages. At this time a course in prenatal care would be useful, but not necessary.

"As the brew becomes pregnant with alcohol, the hydrometer will sink gradually into the brew until it comes to the red line. This will be more fully discussed later, however. During the process of waiting for the hydrometer to sink, be sure to skim off the bubbles caused by the action of the yeast once or twice a day, depending on the amount of



bubbles made. If the bubbles fill the surface of the brew, skim immediately. The yeast fungi must be kept in good stock of air.

"From time-to-time (once a day, usually) add one-half package of yeast — to insure that the yeast will not die and let the brew turn to vinegar.

"Wait until the brew has reached the red line, for that means that it is ready to bottle. To make sure that bottling time is really at hand, allow the red line to sink just below the surface of the brew. This precludes any possibility of "wild beer," the amateur's horror — and evil stuff, besides. At the moment of bottling, one should take out the carefully washed and stored bottles and bottle caps and bottle capper and length of five-foot rubber tubing and... I trust that these were arranged for in advance!

"Anyway, you may secure the necessary bottles by merely climbing the back stairs of almost any frat house, or by cajoling fellow-students into saving their empties and giving them to you. If bottles are unavailable for free, buy them.

"BE SURE TO WASH THE BOTTLES THOR-OUGHLY! GET THEM CLEAN AND KEEP THEM CLEAN BY STORING THEM INVERT-ED IN CARDBOARD BOXES. This will not only drain out the excess water, but will prevent dust from getting in.

"With the necessary bottles in your possession, buy a box of 'Gold Bond' bottle caps. Current price is 60 cents per gross. Also obtain a bottle capper. One should seek the adjustable kind of capper, as it is the most satisfactory capper for bottles of different sizes.

"The surgical instrument used for delivery of the baby brew from its porcelain womb is the syphon hose. Obtain this at the Chemistry stockroom or the local drugstore, where it is called many innocuous names, all of which boil down to syringe hose.

"An aside at this time is necessary. If, in the gestation period, the brew seems to lose a quantity of water, do not be alarmed. It is only the natural process of evaporation. Foil this by adding water when the brew sinks noticeably low.

"In bottling, the important thing is to keep the syphon hose simultaneously in the bottle being filled

and one inch under the surface of the brew. The one-inch depth is recommended as the best way to avoid sucking the bottom scum into the bottles and thus unnecessarily polluting the whole batch.

"As the bottles fill, be sure that there is no premature imbibing on the part of the bottlers, as the

stuff is not fit for drink yet.

"After filling about 24 bottles at a time, cap the bottles and set them aside. This will eliminate clumsy accidents like trying to fill a bottle that has

already been filled.

"Before putting caps on the bottles, it would be advisable to drop in 1/8 teaspoon of 'Knox' unflavored gelatin in each bottle plus 1/4 teaspoon of sugar. The gelatin clumps the yeast in the solution and the sugar prevents the brew from turning to vinegar. Then cap the bottles, carefully place them in cardboard boxes, and store in a cool, dry place.

"At the end of two weeks go out and g-e-n-t-l-y lift out two or three bottles to test. Put them in the freezer for about one-half hour. Then, gently uncap them and pour them steadily and smoothly into a large pitcher (more than a quart pitcher and not made of plastic). Watch the pouring, then stop when the accumulated yeast at the bottom of the bottle is all that is left. (Caution: Do not spoil a

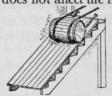
quart of brew by trying to get every last drop of beer.)

"Wash the remaining yeast out of the bottle and pour the pitcherful of brew into the bottle again. Recap with the old caps. Saves money.

"At last the brewer has the brew ready for consumption. He need only chill it more and create an occasion.

"In repeating the above-described operation with the rest of the beer, the success of the venture is assured. Wild beer has been eliminated by the utilization of the hydrometer and the pouring-off of the yeast sediment.

"If this recipe is followed, anyone may have in three weeks' time 12 gallons of delicious home brew, done by his own hand. If quantity is important, the next batch of ingredients may go in as soon as the old batch is turned out. Experimentation with malt for a light or dark beer is encouraged, but the red line on the hydrometer is always the criterion for bottling the brew. The sugar is only for the alcohol, and does not affect the flavor."



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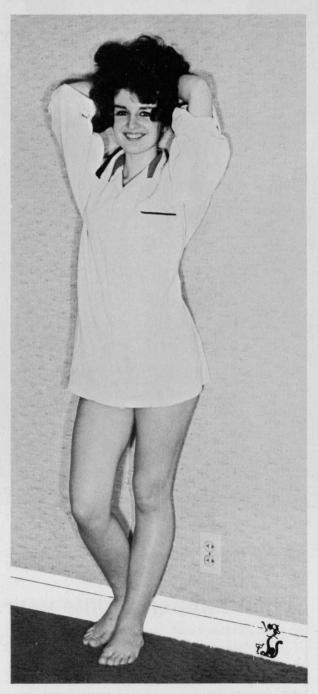
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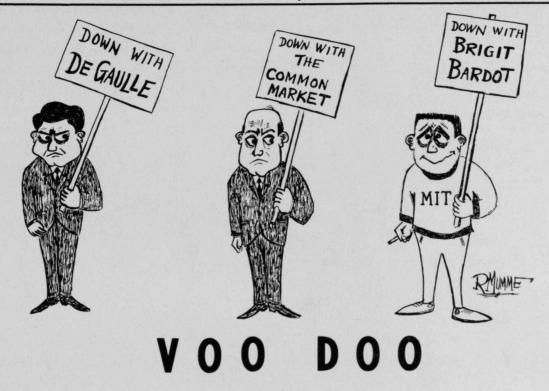
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THE SHAPE OF THINGS TO COME

Just to quell any rumors that our "doll" of last month might be an end to the series, we present a glimpse of next month's Voo Doo Doll of the Month. If you want to see more of her, see the next hilarious issue of Voo Doo, on sale Friday, March 15. Better than that, Buy One.





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