

Let There Be Light

ARCHIBALD DOUGLAS, Sc.D., Ph.D., B.S., read the telegram with unconcealed annoyance.

ARRIVING CITY LATE TODAY STOP DESIRE CONFERENCE COLD LIGHT YOUR LABORATORY TEN P M (signed) DR. M. L. MARTIN

He was, was he? He did, did he? What did he think this lab was; a hotel? And did Martin think that his time was at the disposal of any Joe Doakes who had the price of a telegram? He had framed in his mind an urbanely discouraging reply when he noticed that the message had been filed at a mid-western airport. Very well, let him arrive. Douglas had no intention of meeting him.

Nevertheless, his natural curiosity caused him to take down his copy of Whos Who in Science and look up the offender. There it was: Martin, M. L., bio-chemist and ecologist, P.D.Q., X.Y.Z., N.R.A., C.I.O. enough degrees for six men. Hmmm... Director Guggenheim Orinoco Fauna Survey, Author; Co-Lateral Symbiosis of the Boll Weevil, and so on, through three inches of fine print. The old boy seemed to be a heavyweight.

A little later Douglas surveyed himself in the mirror of the laboratory washroom. He took off a dirty laboratory smock, removed a comb from his vest pocket, and put a careful polish on his sleek black hair. An elaborately tailored checked jacket, a snap-brim hat and he was ready for the street. He fingered the pale scar that stenciled the dark skin of one cheek. Not bad, he thought, in spite of the scar. If it weren't for the broken nose he would look O.K.

The restaurant where he dined alone was only partly filled. It wouldn't become lively until after the theatres were out, but Douglas appreciated the hot swing band and the good food. Toward the end of his meal, a young woman walked past his table and sat down, facing him, one table away. He sized her up with care. Pretty fancy!

Figure like a strip dancer, lots of corn-colored hair, nice complexion, and great big soft blue eyes. Rather dumb pan, but what could you expect?

He decided to invite her over for a drink. If things shaped up, Dr. Martin could go to the devil. He scribbled a note on the back of a menu, and signalled the waiter.

Who is she, Leo? One of the entertainers?

No, msieur, I have not seen her before.

Douglas relaxed, and waited for results. He knew the come-hither look when he saw it, and he was sure of the outcome. The girl read his note and glanced over at him with a little smile. He returned it with interest. She borrowed a pencil from the waiter, and wrote on the menu. Presently Leo handed it to him.

Sorry, it read and thanks for the kind offer, but I am otherwise engaged.

Douglas paid his bill, and returned to the laboratory.

His laboratory was located on the top floor of his father's factory. He left the outer door open and the elevator down in anticipation of Doctor Martin's arrival, then he busied himself by trying to locate the cause of an irritating vibration in his centrifuge. Just at ten o'clock he heard the whir of the elevator. He reached the outer door of his office just as his visitor arrived.

Facing him was the honey-colored babe he had tried to pick up in the restaurant.

He was immediately indignant. How the hell did you get here? Follow me?

She froze up at once. I have an appointment with Doctor Douglas. Please tell him that I am here.

The hell you have. What kind of a game is this?

She controlled herself, but her face showed the effort.

I think Doctor Douglas is the best judge of that. Tell him from here at once.

You're looking at him. From Doctor Douglas.

You! I don't believe it. You look more like a gangster.

I am, nevertheless. Now cut out the downing, sister, and tell me what the racket is. What's your name?

I am Doctor M. L. Martin.

He looked completely astounded, then bellowed his amusement. No foolin'? You wouldn't kid your country cousin, would you? Come in, doe, come in.

She followed him, suspicious as a strange dog; ready to fight at any provocation. She accepted a chair, then addressed him again. Are you really Doctor Douglas?

He grinned at her. In the flesh and~ I can prove it. How about you? I still think this is some kind of a badger game.

She froze up again. What do you want my birth certificate?

You probably murdered Dr. Martin in the elevator, and stuffed the old boy's body down the shaft.

She arose, gathered up her gloves and purse, and prepared to leave. I came fifteen hundred miles for this meeting. I am sorry I bothered. Good evening, Doctor Douglas.

He was instantly soothing. Aw, don't get sore. Was just needling you. It just tickled me that the distinguished Doctor Martin should look so much like Betty Grable. Now sit back down. He gently disengaged her hands from her gloves and let her buy you that drink you turned down earlier.

She hesitated, still determined to be angry, then her natural good nature came to his aid, and she relaxed.

O.K., Butch.

That's better. What'll it be; Scotch or Bourbon?

Make mine Bourbon and not too much water.~

By the time the drinks were fixed and cigarettes lighted the tension was lifted. Tell me, he began, to what do I owe this visit? I don't know a damn thing about biology.

She blew a smoke ring and poked a carmine finger nail through it. You remember that article you had in the April Physical Review? The one about cold light, and possible ways~of achieving it?

He nodded. Electroluminescence vs. Chemiluminescence: not much in that to interest a biologist.

Nevertheless I've been working on the same problem.

From what angle?

I've been trying to find out how a lightning bug does the trick. I saw some gaudy ones down in South America, and it got me to thinking.

11mm. Maybe you got something. What have you found out?

Not much that wasn't already known. As you probably know, the firefly is an almost incredibly efficient source of light at least 96% efficient. Now how efficient would you say the ordinary commercial tungsten-filament incandescent lamp is?

Not over two percent at the best.

That's fair enough. And a stupid little beetle does fifty times as well without turning a hair. We don't look so hot, do we?

Not very, he acknowledged. Go on about the bug.

Well, the firefly has in his tummy an active organic compound very complex called luciferin. When this oxidizes in the presence of a catalyst, luciferase, the entire energy of oxidation is converted into green light no heat. Reduce it with hydrogen and its ready to go again. Ive learned how to do it in the laboratory.

The hell you have! Congratulations! You dont need mc. I can close up shop.

Not so fast. It isnt commercially feasible; it takes too much gear to make it work; its too messy, and I cant get an intense light. Now I came to see you to see if we might combine forces, pool our information, and work out something practical.

Three weeks later at four in the morning Doctor M. L.

MartinMary Lou to her friends was frying an egg over a bunsen burner. She was dressed in a long rubber shop apron over shorts and a sweater. Her long com-colored hair hung in loose ripples. The expanse of shapely leg made her look like something out of a cheesecake magazine.

She turned to where Douglas lay sprawled, a wretched exhausted heap, in a big arm chair. Listen, Ape, the percolator seems to have burnt out Shall I make the coffee in the fractional distillator?

I thought you had snake venom in it.

So I have. Ill rinse it out.

Good God, woman! Dont you care what chances you take with yourself? or with me? -

Poohs snake venom wouldnt hurt you even if you did drink it unless that rotgut you drink has given your stomach ulcers. Soups on!

She chucked aside the apron, sat down and crossed her legs. He automatically took in the display.

Mary Lou, you lewd wench, whjr dont you wear some clothes around the shop? You arouse my romantic nature.

Nuts. You havent any. Lets get down to cases. Where do we stand?

He ran a hand through his hair and chewed his lip. Up against a stone wall, I think. Nothing weve tried so far seems to offer any promise.

The problem seems to be essentially one of confining radiant energy to the visible band of frequency.

You make it sound so simple, bright eyes.

Stow the sarcasm. That is, nevertheless, where the loss comes in with ordinary electric light. The filament is white hot, maybe two percent of the power is turned into light, the rest goes into infrared and ultra-violet

So beautiful. So true.

Pay attention, you big ape I know youre tired, but listen to mama. There should be some way of sharply tuning the wave length. How about the way they do it in radio?

He perked up a little. Wouldnt apply to the case.

Even if you could manage to work out an Inductance capacitance circuit with a natural resonant frequency within the visual band, It would require too much gear for each lighting unit, and if it got out of tune, it *wouldnt give any light at all*.

Is that the only way frequency is controlled?

Yeswell, practically. Some transmitting stations, especially amateurs, use a specially cut quartz crystal that has a natural frequency of its own to control wave length.

Then why cant we cut a crystal that would have a natural frequency in the octave of visible light?

He sat up very straight. Great Scott, kid! I think youve hit it.

He got up; and strode up and down, talking as he went.

They use ordinary quartz crystal for the usual frequencies, and tourmaline for short wave broadcasting. The frequency of vibration depends directly on the way the crystal is cut. There is a simple formula He stopped, and took down a thick India-paper handbook Hmmyes, here it is. For quartz, every millimetre of thickness of the crystal gives one hundred metres of wave length. Frequency is, of course, the reciprocal of wave length. Tourmaline has a similar formula for shorter wave lengths.

He continued to read. These crystals have the property of flexing when electric charges are applied to h them, and, vice versa, show an electric charge when flexed. The period of flexure is an inherent quality of the crystal, depending on its geometrical proportions. Hooked Into a radio transmitting circuit, such a crystal requires the circuit to operate at one, and only one, frequency, that of the crystal. Thats it, kid, thats it! Now if we can find a crystal that can be cut to vibrate at the frequency of visible light, weve got it a way to turn electrical energy into light without heat losses!

Mary Lou cluck-ducked admiringly. Mamas good boy. Mama knew he could do it, if he would only try.

Nearly six months later Douglas invited his father up to the laboratory to see the results. He ushered the mild, silver-haired old gentleman into the sanctum sanctorum and waved to Mary Lou to draw the shades. Then he pointed to the ceiling.

There it is, Dad cold light at a bare fraction of the cost of ordinary lighting.

The elder man looked up and saw, suspended from the ceiling, a grey screen, about the size and shape of the top of a card table. Then Mary Lou threw a switch. The screen glowed brilliantly, but not da7zlingly, and exhibited a mother-of-pearl iridescence. The room was illuminated by strong white light without noticeable glare.

The young scientist grinned at his father, as pleased as a puppy who expects a pat How do you like it, Dad?

One hundred candle power thatud .take about a hundred watts with ordinary bulbs, and were doing it with two wattshalf an ampere at four volts.

The old man blinked absent-mindedly at the dispily. Very nice, son, very nice indeed. Fm pleased that you have perfected it.

Look, Daddo you know what that screen up there is made out of? Common, ordinary clay. Its a form of aluminum silicate; cheap and easy to make from any clay, or ore, that contains aluminum. I can use bauxite, or cryolite, or most anything. You can gather up the raw materials with a steam shovel in any state in the union.

Is your process all finished, son, and ready to be patented?

Why, yes, I think so, Dad.

Then lets go into your office, and sit down. Fve something I must discuss with you. Ask your young lady to come, too.

Young Douglas did as he was told, his mood subdued by his fathers solemn manner. When they were seated, he spoke up.

Whats the trouble, Dad? Can I help?

I wish you could, Archie, but Fm afraid not. Fm go.. ing to have to ask you to close your laboratory.

The younger man took it without flinching. Yes, Dad?

You know Fve always been proud of your work, and since your mother passed on my major purpose has been to supply you with the money and equipment you needed for your work.

Youve been very generous, Dad.

wanted to do it. But now a time when the factory wont support your research any longer. In fact, I may have to close the doors of the plant

As bad as that, Dad? I thought that orders had picked up this last quarter.

We do have plenty of orders, but the business isnt making a profit on them. Do you remember I mentioned something to you about the public utilities bill that passed at the last session of the legislature?

I remember-it vaguely, but I thought the Governor vetoed it.

He did, but they passed it over his veto. It was as bold a case of corruption as this state has ever seen the power lobbyists had both houses bought, body and soul. The old mans voice trembled with impotent anger.

And just how does it affect us, Dad?

This bill pretended to equalize power rates according to circumstances. What it actually did was to permit the commission to discriminate among consumers as they saw fit. You know what that commission is Ive always been on the wrong side of the fence politically. Now they are forcing me to the wall with power rates that prevent me from competing.

But good heavens, Dad They cant do that Get an injunction!

In this state, son? His white eyebrows raised.

No, I guess not. He got to his feet and started walking the floor. There is just be something we can do.

His father shook his head. The thing that really makes me bitter is that they can do this with power that actually belongs to the people. The federal governments program has made plenty of cheap power possible the country

should be rich from it but these local pirates have gotten hold of it, and use it as a club to intimidate free citizens.

After the old gentleman had left, Mary Lou slipped over and laid a hand on Douglas shoulder and looked down into his face. -

You poor boy!

His face showed the upset he had concealed from his father. Cripes, Mary Lou. Just when we were going good. But I mind it most for Dad.

Yes, I know. -

And not a damn thing I can do about it. Its politics, and those pot-bellied racketeers own this state.

She looked disappointed and faintly scornful. Why, Archie Douglas, you great big panty-waist! You arent going to let those mugs get away with this without a fight, are you?

He looked up at her dully. No, of course not. Ill fight. But I know when Im licked. This is way out of my field.

She flounced across the room. Im surprised at you. Youve invented one of the greatest things since the dynamo, and you talk about being licked.

Your invention, you mean.

Nuts! Who worked out the special forms? Who blended them to get the whole spectrum? And besides, you arent out of your field. Whats the problem? Power! Theyre squeezing you for power. Youre a physicist. Dope out some way to get power without buying from them.

What would you like? Atomic power? -

Be practical. You arent the Atomic Energy Commission.,,

I might stick a windmill on the roof.

Thats better, but still not good. Now get busy with that knot in the end of your spinal cord. TB start some coffee. This is going to be another all night job.

He grinned at her. O.K., Carrie Nation. Im coming.

She smiled happily at him. Thats the way to talk.

He rose and went over to her, slipped an arm about her

waist and kissed her. She relaxed to his embrace, but when their lips parted, she pushed him away.

Archie, you remind me of the Al G. Barnes Circus; Every Act an Animal Act.

As the first light of dawn turned their faces pale and sickly, they were rigging two cold light screens face to face. Archie adjusted them until they were an inch apart.

There now practically all the light from the first screen should strike the second. Turn the power on the first screen, Sex Appeal.

She threw the switch. The first screen glowed with light, and shed its radiance on the second.

Now to see if our beautiful theory is correct. He fastened a voltmeter across the terminals of the second screen and pressed the little black button in the base of the voltmeter. The needle sprang over to two volts.

She glanced anxiously over his shoulder. How *bout it, guy?*

It works! Theres no doubt about it. These screens work both ways. Put juice in em; out comes light. Put light in em; out comes electricity.

Whats the power loss, Archie?

Just a moment. He hooked in an ammeter, read it, and picked up his slide rule. Let me see Loss is about thirty percent. Most of that would be the leakage of light around the edges of the screens.

The suns coming up, Archie. Lets take screen number two up on the roof, and try it out in the sunlight.

Some minutes later they had the second screen and the electrical measuring instruments on the roof. Archie propped the screen up against a sky-light so that it faced the rising sun, fastened the voltmeter across its terminals and took a reading. The needle sprang at once to two volts.

Mary Lou jumped up and down. It works! -

Had to work, commented Archie. If the light from another screen will make it pour out juice, then sunlight is bound to. Hook in the ammeter. Lets see how much power we get.

The ammeter showed 18.7 amperes.

Mary Lou worked out the *result on the slide rule.*

Eighteen-point-seven times two gives thirty-seven-point-four watts or about five hundredths of a horsepower.. That doesnt seem like very much. I had hoped for more.

Thats as it should be, kid. We are using only the visible light rays. As a light source the sun is about fifteen percent efficient; the other eighty-five percent are infrared and ultra-violet. Gimme that slipstick. She passed him., the slide rule. The sun pours. out about a horsepower and a half, or one and one eighth kilowatts on every square yard of surface on the earth that is faced directly towards the sun. Atmospheric absorption cuts that down about a third, even at high noon over the Sabarn desert. That would give one horsepower per square yard. With the sun just rising we might not get more than one-third horsepower per square yard here. At fifteen percent efficiency that would be about five hundredths of a horsepower. It checks Q.E.D. What are you looking so glum about?

Well I had hoped that we could get enough sunpower off the roof to run the factory, but if it takes twenty square yards to get one horsepower, it won't be enough.

Cheer up, Baby Face. We doped out a screen that would vibrate only in the band of visible light; I guess we can dope out another that will be atonicone that will vibrate to any wave length. Then it will soak up any radiant energy that hits it, and give it up again as electrical power. With this roof surface we can get maybe a thousand horsepower at high noon. Then we'll have to set tip banks of storage batteries so that we can store power for cloudy days and night shifts.

She blinked her big blue eyes at him. Archie, does your head ever ache?

Twenty minutes later he was back at his desk, deep in the preliminary calculations, while Mary Lou threw together a scratch breakfast. She interrupted his study to ask:

Where'dja hide that bottle, Lug?

He looked up and replied, Its immoral for little girls to drink in broad daylight.

Come out of the gutter, chum. I want to turn these hotcakes into crepes Suzette, using corn liquor instead of brandy.

Never mind the creative cookery, Dr. Martin. Ill take mine straight I need my health to finish this job.

She turned around and brandished the skillet at him. To hear is to obey, my Lord. However, Archie, you are an over-educated Neanderthal, with no feeling for the higher things Of life.

I wont argue the point, Blonde Stuff--it take a gander at this. Ive got the answera screen that vibrates all down the scale.

No foolin, Archie?

No foolin, kid. It was already implied in our earlier experiments, but we were so busy trying to build a screen that wouldnt vibrate at random, -we missed it. I ran into something else, too.

Tell mama!

We can build screens to radiate in the infrared just as easily as cold light screens. Get it? Heating units of any convenient size or shape, economical and with no high wattage or extreme temperatures to make em fire hazards or dangerous to children. As I see it, we can design these screens to, one he ticked the points off on his fingerstake power from the sun at nearly one hundred percent efficiency; two, deliver it as cold light; or three, as heat; or fQur, as electrical power. We can bank em in series to get any required voltage; we can bankin parallel to get any required current, and the power is absolutely free, except for the installation costs.

She stood and watched him in silence for several seconds before speaking. All that from trying to make a cheaper light. Come eat your breakfast, Steinmetz. You men cant do your work on mush.

They ate in silence, each busy with new thoughts. Finally Douglas spoke. Mary Lou, do you realize just how big a thing this is?

Ive been thinking about it."

Its enormous. Look, the power that can be tapped is incredible. The sun pours over two hundred and thirty trillion horsepower onto the earth all the time and we use almost none of it.

As much as that, Archie?

I didnt believe my own figures when I worked it out, so I looked it up in Richardsons Astronomy. Why, we could recover more than twenty thousand horsepower in any city block. Do you know what that means? Free power! Riches for everybody! Its the greatest thing since the steam engine. He stopped suddenly, noticing her glum face. Whats the matter, kid, am I wrong someplace?

She fiddled with her fork before replying. No, Archieyoure not wrong. Ive been thinking about it, too. Decentralized cities, labor-saving machinery for everybody, luxuriesits all possibl~, but Ive a feeling that were staring right into a mess of trouble. Did you ever hear of Breakages Ltd.?

What is it, a salvage concern?

Not by a hell of a sight. You ought to read something besides the Proceedings of the American Society of Physical Engineers. George Bernard Shaw, for instance. Its from the preface of Back to Methuselah, and is a sardonic way of describing the combined power of corporate industry to resist any change that might threaten their dividends. You threaten the whole industrial set-up, son, and youre in danger right where youre sitting. What do

you think happened to atomic power?

He pushed back his chair. Oh, surely not. Youre just tired and jumpy. Industry welcomes invention. Why, all the big corporations have their research departments with some of the best minds in the country working in them.

And they are in atomics up to their necks.

Sureand any bright young inventor can get a job

with them. And then hes a kept manthe inventions belong to the corporation, and only those that fit into the pattern of the powers-that-be ever see light. The rest are shelved. Do you really think that theyd let a free lance like you upset investments of billions of dollars?

He frowned, then relaxed and laughed. Oh, forget it, kid, its not that serious.

Thats what you think. Did you ever hear of celanese voile? Probably not. Its a synthetic dress material used in place of chiffon. But it wore better and was washable, and it only cost about forty cents a yard, while chiffon costs four times as much. You cant buy it any more.

And take razor blades. My brother bought one about five years ago that never had to be re-sharpened. Hes still using it, but if he ever loses it, hell have to go back to the old kind. They took em off the market.

Did you ever hear of guys who had found a better, cheaper fuel than gasoline? One showed up about four years ago and proved his claimsbut he drowned a couple of weeks later in a swimming accident. I dont say that he was murdered, but its damn funny that they never found his formula.

And that reminds meI once saw a clipping from the Los Angeles Daily News. A man bought a heavy standard make car in San Diego, filled her up and drove her to Los Angeles. He only used two gallons. Then he drove to Agua Caliente and back to San Diego, and only used three gallons. About a week later the sales company found him and bribed him to make an exchange. By mistake they had let him have a car that wasnt to be sold one with a trick carburetor.

Do you know any big heavy cars that get seventy miles to the gallon? Youre not likely tonot while Breakages Ltd. rules the roost. But the story is absolutely kosheryou can look it up in the files.

And of course, everybody knows that automol~iles arent built to wear, theyre built to wear out, so you will buy a new one. They build em just as bad as the market

will stand. Steamships iake a worse beating than a car, and they last thirty years or more.

Douglas laughed it off. Cut out the gloom, Sweetie Pie. Youve got a persecution c9mplex. Lets talk about something more cheerfulyou and me, for instance. You make pretty good coffee. How about us taking out a license to live together?

She ignored him.

Well, why not. Im young and healthy. You could do worse.

Archie, did I ever tell you about the native chief that got a yen for me down in South America?

I dont think so. What about him?

He wanted me to marry him. He even offered to kill off his seventeen current wives and have them served up for the bridal feast.

Whats that got to do with my proposition?

I should have taken him up. A girl cant afford to turn down a good offer these days.

Archie walked up and down the laboratory, smoking furiously. Mary Lou perched on a workbench and watched him with troubled eyes. When he stopped to light another cigaret from the butt of the last, she bid for attention.

Well, Master Mind, how does it look to you now?

He finished lighting his cigaret, burned himself, cursed in a monotone, then replied, oh, you were right, Cassandra. Were in more trouble than I ever knew existed. First when we build an electric runabout that gets its power from the sun while its parked at the curb, somebody pours kerosene over it and burns it up. I didnt mind that so much it was just a side issue. But when I refuse to sell out to them, they slap all those honeylaw suits on us, and tie us up like a kid with the colic.

They havent a legal leg to stand on.

I know that, but theyve got unlimited money and we havent. They can run these suits Out for months maybe yearsonly we cant last that long.

Whats our next move? Do you keep this appointment?

I dont want to. Theyll try to buy me off again, and probably threaten me, in a refined way. Id tell em to go to hell, if it wasnt for Dad. Somebodys broken into his house twice now, and hes too old to stand that sort of thing.

I suppose all this labor trouble in the plant worries him, too.

Of course it does. And since it dates from the time we started manufacturing the screens on a commercial scale, Im sure its part of the frame-up. Dad never had any labor trouble before. He always ran a union shop and treated his men like members of his own family. I dont blame him for being nervous. Im getting tired of being followed everywhere I go, myself. It makes me jumpy.

Mary Lou puffed out a cloud of smoke. Ive been tailed the past couple of weeks.

The hell you have! Mary Lou, that tears it. Im going to settle this thing today. Going to sell out?

No. He walked over to his desk, opened a side drawer, took out a .38 automatic, and slipped it in his pocket. Mary Lou jumped down from the bench and ran to him. She put her hands on his shoulders, and looked up at him, fear in her face.

Archie.

He answered gently. Yes, kid.

Archie, dont do anything rash. If anything happened to you, you know damn well I couldnt get along with a normal man.

He patted her hair. Those are the best words Ive heard in weeks, kid.

Douglas returned about one P.M. Mary Lou met him at the elevator. Well?

Same old song-and-dance. Nothing done in spite of my brave promises.

Did they threaten you?

Not exactly. They asked me how much life insurance I carried.

What did you tell them?!

Nothing. I reached for my handkerchief and let them see that I was carrying a gun. I thought it might cause them to revise any immediate plans they might have in mind. After that the interview sort of fizzled out and I left. Marys little lamb followed me home, as usual.

Same plug-ugly that shadowed you yesterday?

Him, or his twin. He couldnt be a twin, though, come to think about it. Theyd have both died of fright at birth.

True enough. Have you had lunch?

Not yet. Lets ease down to the shop lunch room and take on some groceries. We can do our worrying later.

The lunch room was deserted. They talked very little. Mary Lous blue eyes stared vacantly over his head. At the second cup of coffee she reached out and touched him.

Archie, do you know the ancient Chinese advice to young ladies about to undergo criminal assault?

No, what is it?

Just one word: Relax. Thats what weve got to do.!

Speak English.

Ill give you a blueprint Why are we under attack?

Weve got something they want.

Not at all. Weve got something they want to quarantine they dont want anyone else to have it. So they try to buy you off, or scare you into quitting. If these dont work, theyll try something stronger. Now youre danger..ous to them and in danger from them because youve got a secret. What happens if it isnt a secret? Suppose everybody knows it?

Theyd be sore as hell.

Yes, but what would they do? Nothing. Those big tycoons are practical men. They wont waste a dime on heckling you if it no longer serves their pocketbooks.

What do you propose that we do?

Give away the secret. Tell the world how its done.

Let anybody manufacture power screens and light screens who wants to. The heat process on the mix is so simple that any commercial chemist can duplicate it once you tell em how, and there must be a thousand factories, at least, that could manufacture them with their present machinery from materials at their very doorsteps.

But, good Lord, Mary Lou, wed be left in the lurch.

What can you lose? Weve made a measly couple of

thousand dollars so far, keeping the process secret. If you turn it loose, you still hold the patent, and you could charge a nominal royalty one that it wouldnt be worth while trying to beat, say ten cents a square yard on each screen manufactured. There would be millions of square yards turned out the first year hundreds of thousands of dollars to you the first year, and a big income for life. You can have the finest research laboratory in the country.

He slammed his napkin down on the table. Kid, I believe youre right.

Dont forget, too, what youll be doing for the country. There'll be factories springing up right away all over the Southwest every place where theres iota of sunshine. Free power! Youll be the new emancipator.

He stood up, his eyes shining. Kid, well do it! Half a minute while I tell Dad our decision, then well beat it for town.

Two hours later the teletype In every news service office in the country was clicking out the story. Douglas insisted that the story include the technical details of the process as a condition of releasing it. By the time he and Mary Lou walked out of the Associated Press building the first extra was on the street: GENIUS GRANTS GRATIS POWER TO PUBLIC. Archie bought one and beckoned to the muscle man who was shadowing him.

Come here, Sweetheart. You can quit pretending to be a fireplug. Ive an errand for you. He handed the lunk the newspaper. It was accepted uneasily. In all his long and unsavory career he had never had the etiquette of shadowing treated in so cavalier a style. Take this paper to your boss and tell him Archie Douglas sent him a valentine. Dont stand there staring at me! Beat it, before I break your fat head!

As Archie watched him disap-ar in the crowd, Mary Lou slipped a hand in his. Feel better, son?

Lots.

All your worries over?

All but one. He grabbed her shoulders and swung her around. Ive got an argument to settle with you. Come along! He grabbed her wrist and pulled her out into the crosswalk.

What the hell, Archie! Let go my wrist.

Not likely. You see that building over there? Thats the court house. Right next to the window where they issue dog licenses, theres one where we can get a wedding permit.

Im not going to marry you!

The hell you arent. Youve stayed all night in my laboratory a dozen times. Im compromised. Youve got to make an honest man of me or Ill start to scream right here in the street.

This is blackmail!

As they entered the building, she was still dragging her feet but not too hard.