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The Missouri Miner, October 31, 1927

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THE MISSOURI MINER.

Missouri School of Mines and Metallurgy, Rolla, Missouri.

Vol. 14.

Monday, October 31, 1927

No. 7

PROF. MANN ENGAGES IN RESEARCH WORK ON TESTS FOR ENGINEERING ADAPTABILITY

During the first week of school this semester Prof. Clair V. Mann, head of the department of Engineering Drawing conducted a series of tests to determine the adaptability of the members of the freshman class for Engineering Drawing.

This test, devised by Prof. Mann, is the first of its kind that has ever been given in any of the engineering schools of this country. He says that it has proven a decided success for when the results of the entire class are plotted graphically, an even mathematical curve is obtained which clearly shows the relative percentage of knowledge of the class. The average grade of the class was found to be slightly above seventy per cent. This is as it should be for it indicates that the questions asked were neither too difficult nor too easy.

"The purposes of this particular series of tests were many," said Prof. Mann. "It enabled me to separate the entire class into groups according to their adaptability to Engineering Drawing as demonstrated by their grades in the test. This, of course, facilitates instruction and it gives the instructor an idea of what may be expected of the students in his class. It shows clearly the percentage of knowledge of the subject possessed by the students entering this school, and an interesting comparison may be made later by giving another test of the same character to the men who have completed the course. Then too, it has been an interesting experiment that will furnish a basis for further work along this line."

Prof. Mann has, for a long time previous to this examination, been engaged in research work on the subject of placement examinations similar to those given this fall—these examinations to be used not only by the Drawing Department but by all other departments of engineering education. At some future time he hopes to write a scientific treatise of the data gathered from his work. It is certain that he will be well qualified to do so, and we hope that his efforts will meet with the suc-

DR. S. D. BROOKS SPEAKS IN MASS MEETING.

It was a pleasure and a privilege to listen to the speech presented last Friday morning by Dr. Brooks, the president of Missouri University and the School of Mines.

It is seldom that the walls of Parker Hall have echoed words carrying more wisdom and truth than those of Dr. Brooks. From a vantage point of president of a great university he has watched thousands of college students;—he has studied them, and he knows whereof he speaks.

In a striking illustration Dr. Brooks likened the unending stream of students approaching and passing through college to the traffic of automobile passing along a highway and over a bridge. "We may call the bridge 'college'," he said. "The road is the highway of life, the cars approaching and crossing the bridge are the students. The progress of the car along this highway is determined by the quality of its engine and by the judgment of the driver. Some of the cars will progress steadily to their destination, driven conservatively onward. Others will land in the ditch at the roadside due to recklessness, and still others will, perhaps, run out of gas."

In speaking of character and its development in the college student, Dr. Brooks said that "a man's success maybe measured largely by his ability not to do the things he wants to do." Every fellow who wishes to see a show on a night when he knows he has not the time to spare—debates with himself whether or not he should go. The question is: which side usually wins the debate?

"The purpose of this school," he said, "is to increase the personal efficiency of the student and to instill a spirit of self sacrifice and cooperation, so that he will become a better citizen." This is very true indeed, for after all we are not here for the sole purpose of absorbing a certain amount of technical knowledge. If a college education does not

Continued on Page Two.

cess and widespread recognition that they deserve.

ST. LOUIS U. MINERS O.

Although the Miners put up a terrific battle in face of the St. Louis University football eleven, the boys from Rolla went down to their fourth straight defeat. However, the Miners outclassed the Billkens in gaining first downs, gaining on runs, out-passing our rivals 122 yards to 44, and total gains netted. It seemed as if fate was again present, as the opponents showed that they had the final punch needed o score.

Lintzenich, Flynn and Jordon were the most conspicuous men on the St. Louis U. eleven. Lintzenich scored a touchdown and booted a field goal, while Flynn gave the score the other boost for the Bills.

Ledford, Thomas and Martin were the outstanding stars for the Miner team, although every man on the Miner team played a steady stellar game. Gains by Monte and Thomas were almost made at will, although we were held scoreless. Martin played one of the best games at defense that has been witnessed on the Billken field this year.

The two types of play supplied by the two teams made the game interesting throughout. The Bills played a steady game, while the Miners seemed to have spells in which they looked like world beaters, and then relax to a state of inferiority. A 15-yard gain and a penalty would be the downfall of the majority of Miner marches.

Line-up and summary:

St. Louis U.	Miners
Mulroy	le.....Niedermeyer
Tison	lt.....Bolen
Brown	lg.....Herbert
Davidson	c.....Young
Cretelius	rg.....Martin
Oelschlager	rt.....Shearer
Daubner	re.....Ray
Flynn	qb.....Ledford
Lintzenich	rh.....Ried
Jordan	lh.....Kjar
Dirnberger	fb.....Hassler

Substitutions—Rolla: Alsbach for Niedermeyer, Tucker for Herbert, McRae for Ray, Loupe for Ledford, Thomas for Ried, McCormack for Kjar.

Score by quarters:

	1	2	3	4
Rolla	0	0	0	0—0
St. Louis U.....	0	7	10	0—17

Referee, Kline (Missouri); umpire, Lewis (Washington); head linesman, Marquard (Washington).

Scoring—Touchdowns, Lintzenich and Flynn. Points after touchdowns, Lintzenich on dropkick, Jordan on pass. Field goal, Lintzenich on drop kick.

(Summary—First downs, St. L. U., 10, Miners 13; gained on runs, St. L. U. 133 yards, Miners 138 yards; gained on passes, St. L. U. 44 yards; Miners 122 yards; gained on returned kicks, St. L. U. 101 yards, Miners 41 yards; total gained, St. L. U. 278 yards, Miners 301 yards; kickoffs, St. L. U., 3 for 264 yards; Miners, 2 for 82 yards; average kickoff, St. L. U., 55 yards; Miners 41 yards; punts, St. L. U., 5 for 231 yards; Miners, 6 for 278 yards; average punt, St. L. U., 46 yards, Miners 46 yards; completed passes, St. L. U., 4 out of 10, Miners 7 out of 16; penalties, St. L. U. 4 for 35 yards, Miners, 10 for 90 yards.

DR. S. D. BROOKS SPEAKS IN MASS MEETING.

Continued from Page One.

help to build a strong character in the student, it has not accomplished its full purpose.

Dr. Brook's speech contained many valuable hints on character building that were of unquestionable benefit to his audience. He said that if we remembered one or two sentences of his speech his time would be well spent. Accordingly we are quite sure that not one minute of his time was wasted, and we look forward to hearing Dr. Brooks again at some future time.

MINER DANCE.

Of all the superheated dances ever given in Jackling gym the Miner dance last Friday evening took the supreme prize. Pyrometrically speaking it was a wow! A clever crowd of girls, that rival St. Pats—and music that rivaled St. Pats—well it was almost a second St. Pats in the majority of ways. The decorated gym gave an altogether pleasing attitude to the situation and was a very direct cause for the success. The Hallowe'en setting was very appropriate for the season, and lent color and atmosphere to the brilliant affair.

An hithertofore unknown amount of dates were seen engaged in the terpsichorean art and the stag line was relatively small. The football game in St. Louis had very little ef-

fect upon the dance as far as a success was concerned since this was the apex of perfection in the line of Miner dances. As per usual, Bill Schweickhardt and his Varsity "Purveyors of Good Music" were on hand and all hot and we don't mean "mebbe".

KAPPA SIGMA DANCE.

A good dance, characterized by a fine group of our of town dates, formal dress and hot music went to make the Kappa Sigma dance last Saturday night a success.

The guests were Misses Bonnie Billman, Kathryn Miller, Webster Groves; Miss Nell Atwood, Ferguson, Mo.; Francis Parker, Indianapolis, Ind.; Jane Heckman, Coffeyville, Kans.; Mary Smith, Jane Campbell, St. Louis and Harriet Lydon and Lucy Terry of Paducah, Ky. The Varsity German Squad furnished the music.

M. S. M. PLAYERS.

The first of a series of plays to be given by the M. S. M. Players will be presented within the next two or three weeks. The exact date is as yet uncertain, but will be announced later.

The initial play, a comedy drama in three acts, is entitled the "Gypsy Trail." As yet the cast is uncertain, however, it will be announced as soon as it is selected.

The prospective cast is doing much hard work under the direction of Prof. Currier and the assistant director, James Spalding. The year promises to be a very successful one for the Players, inasmuch as there was a very fine turnout for tryouts. With as much enthusiasm upon the part of the rest of the student body, it will be beyond doubt one of the best.

CONQUERING OUR ENEMIES.

Every living thing has an enemy; the pine tree has its beetle, the oak its misfeetoe, the rose bush its asphis; every bird another bird, every fish another fish, every animal another animal.

A little hopping toad is instantly paralyzed on seeing a rattlesnake. He knows that loutish old snake can slide right over him—engulf him—before ever he can get in another hop. But the rattlesnake with his superior poison bag is scared helpless at sight of a wriggly little garter snake. He knows the little fellow can twist right around him and choke him to death before he can get that

fang of his working. A skunk can run most anything down, but he turns tail on a badger, for a badger can sieze him and box around as if he didn't amount to anything; doesn't mind his musk a bit—kind o' likes it. A pig will snuffle and grunt contentedly over his trough, defend his right to it with most anything, but let a bear come near and see him scoot. And if there were no cats in the world, what a fine time mousy would have. While with a cat, if it only weren't for dog, life would be one long dream.

Nothing at all has the complete freedom of the earth or sea, or the air.

And man least of all. Every one of us has our enemy—a close, personal, intimate enemy. We may not quite find him in that one who underbids us, in that other one who maneuvered us out of our property, or in that one who sold us a gold brick, nor perhaps in that one who maligned us, or misrepresented us, or misunderstood us. Fortunate is the one who finds his enemy early. That's all success is—finding your enemy and corralling him. It may be temper; it may be self-deception, or fear, or officiousness, or sensitiveness.

And yet this very enemy, handled, may be our best friend. It's just when he turns wild that he kills us off. Who would take the stirring out of the air—but who wants a cyclone? Who would take the current out of the stream—but who wants a torrent? We must have some temper—to uphold our integrity; we must have some self-depreciation—enough to be modest; some fear—enough to be cautious; some officiousness—enough to manage our job; some sensitiveness—enough to discover deception.

Control your enemies—that's enough.

—Adapted from Good Housekeeping.

Dr. Dake's class in field geology made a three and a half day trip last week visiting various points in southeast Missouri. The trip was made to study the sedimentary series of southeast Missouri, and stops were made to study faults and contacts between Pre-Cambrian granites and propries. Those making the trip were Dr. Dake, H. E. Gross, J. P. Harmon, and N. L. Kozlensky.

"Why do the Scotch like basketball?"

"They enjoy the free throws."

**Low-Minded.**

My roommate's got such a low mind that he wears his socks to bed to keep his neck warm.—Stanford Chaparral.

When cupid hits the mark, he usually Mrs. it.

A man keeps his nose to the grindstone so his wife can turn hers up at the neighbors.

1st: "History books tell us that William the Silent was married five times."

2nd: "No wonder he was called the Silent."

She: "Do you think that talkative women are the most popular?"

He: "What other kinds are there?"

Patronize our Advertisers.

The 'College Life' says that all students from the freshest freshmen to the staidest senior should arrange for the reading of local and world news. This information will help a student when he is called upon to be like some one's ideal of a college man.

Marriage ties are sometimes hard knots.

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EXCHANGES.

The University of Arkansas at Fayetteville has fifteen students working for master's degrees while special work is being done by others. The "Arkansas Traveler" states that the following institutions are represented by that number: University of Indiana, State College of Washington, Southwest Missouri State Teachers College, Central State Teachers College of Oklahoma, Arkansas State Teachers College and Arkansas College.

Is Football Popular?

Who says football isn't popular? At the K. U.-Wisconsin game Saturday, there were 25,000 people present. There were 74 big college games Saturday. The least possible

number present at all the games would be 740,000, an average of 10,000 at each game. Just think! more persons every week attend football games than there are people in Kansas City! Do you wonder that good players are widely known?

A Cadillac sedan has been purchased by the athletic department of the Southwestern Teachers College, Weatherford, Oklahoma, for the purpose of transporting the school team to the places where it will play.

The men's glee clubs of K. U. and M. U. will give a program Nov. 16 at Lawrence.

He (at football game): "That fellow playing center will be our best man before the season's over."

She: "Oh! Jack, this is so sudden!"
College Life.

He: "You gave me a mighty nasty look."

She: "So did nature."

College Life.

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in
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SUNDAY
W. C. FIELDS
in
RUNNING WILD

OUR SOPHOMORES.

In reply to one of the editorials set forth by a member of the Sophomore class thru the columns of the Missouri Miner, a few things should be brought to light regarding the power of the Class of '30 in regard to treatment of the frosh. The impression left by the writer of the forementioned article is that the Juniors had no right to interfere with the doings of the Sophomores in the incident, of where the Class of '30

tried to glue a green top piece upon a member of the Class of '31, in mass meeting several weeks ago.

The second year men are expected and have the right to glue caps upon the heads of the erring freshmen, but certain things must be taken into consideration, and when men get to their second year in college, they are expected to use their judgment in a situation of this kind.

The mass meeting incident (and several other occasions) where the Sophomores TRIED to put a cap upon a Frosh while indoor, is a good example of when the Juniors are justified in interfering with Sophomore activity.

Manners of gentlemen forbid the wearing of hats in the house, and the same rule should and WILL apply to Freshmen. If the Sophomores wish to give the erratic Freshman a shampoo, then it is their privilege, but they will wait until the Frosh gets outside. It also might be well to add that if the '30-ites were always as active as they were in this instance, the Juniors would not have to take it upon themselves to help enforce the laws—since the Frosh have practically made a big joke of this Senior Council ruling in regard to caps and suspenders.

It is high time the Class of '30 get on their horse and enforce campus laws, and not have the Juniors do it, as it is not a likable job.

Sophomores are supposed to be campus policemen, but it looks as if

he attempt to be is a pretty poor one.

A JUNIOR.

Many boys start in school with a very hazy idea of what branch of engineering they wish to follow. The school has a lecture course during the first half of the Freshman year, with the purpose of helping us to choose our line of work. This may well be supplemented by a little library reading, for in the magazine section can be found plenty of information on every branch taught here. Take, for instance, the Mining and Metallurgical Journal for October. It is very readable, and in this one issue can be found articles on a wide scope of mining activities. An article on oil production in Venezuela, a field to which many of mining school graduates go, is very informative as to present status and future prospects of this field. Other articles tell in non-technical language of new inventions and developments in copper and coal mining. An hour's reading gives one a fair view of this branch of engineering, and shows that prospects of a good livelihood for the man who takes up this trade.

Instructor: "Mr. Jackson, will you sit down in front?"

Jackson: "I can't sir; I'm not built that way."

—College Life.

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THE MISSOURI MINER.

A weekly paper published by the Students, in the interest of the Alumni, Students, and Faculty of the Missouri School of Mines and Metallurgy, Rolla, Mo.

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Issued Every Monday.

TO THE STUDENTS OF M. S. M.

A question has arose which only you may answer—and your answer will have a very grave influence upon the athletic prowess of the school. A few years ago, wrestling as a sport was allowed to die out thru lack of interest. It has taken two years of hard work to build up last year's team and today we are confronted by the same problem.

The athletic department has refused to issue the wrestling equipment to men who wish to train. Last year we had a fully equipped team; why can't that equipment be issued this season? The plea that there is no coach is groundless! We have Spoof and Rifot either of whom could do a great deal toward turning out a team. In addition we have Bolon, Livingston, Jennings, Hill, Wiess and Captain Moulder.

Letter men from last year as well as others, who gained valuable experience last season, even though they did not win the coveted initial—are these men to be denied an opportunity to represent their school?

The only real argument against a team then, is the lack of funds. And this can be very easily eliminated if the student body wishes to be represented on the mat.

Our trips last year were in cars

donated by friends of the team and even by the men themselves. The trips were conducted for less expense than any other team in the school, and their showing was certainly in no way inferior to that of our other teams.

So students of M. S. M.—its up to you! The men who were out last year await your decision.

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COMPLETE DETAILS of this nationwide search for new artists in the December College Humor on sale November 2nd.

A brilliant article on *Princeton*, by F. Scott Fitzgerald, appears in this number; and another feature is a complete novelette, *The Return of Andy Protheroe*, by Lois Montross.

CollegeHumor

Address letters and entries to

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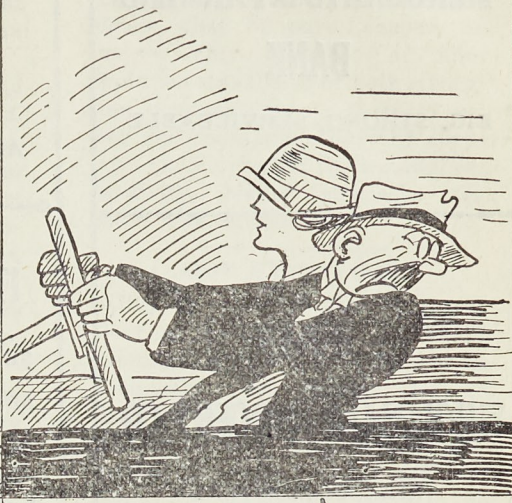
WHEN YOU'VE BOUGHT A NEW
THAT THE SALESMAN SAYS
DO 70 MILES AN HOUR



AND YOU TAKE THE RIG OUT TO
SEE JUST WHAT SHE WILL DO.



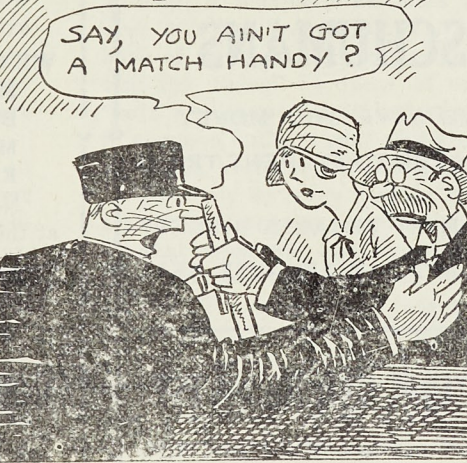
AND WHEN YOU'RE SAILING ALONG
AT 55 YOU SEE A COP TAILING
YOU.



YOU PULL UP TO THE SIDE
THE ROAD WITH FEAR AND
TUMBLING.



AND WHAT HE ASKS YOU IS
SOMETHING QUITE DIFFERENT
FROM WHAT YOU THOUGHT IT WAS
GOING TO BE.



OH-H-H-H BOY! AIN'T IT A
GR-R-R-RAND AND
GLOR-R-RIOUS FEELIN'?

I'VE COUGHED MY
HEAD OFF EATIN' EXHAUST
SMOKE, AN' I'VE GOT A
BIG YEN FOR AN OLD GOLD



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One Up!

I saw a sign in a restaurant,
"Ladies Served Here." I went in and
ordered a snappy blonde. They threw
me out. I wonder why?

Producer: "Did you write this un-

aided?"

Playwright: "I did. I wrote every
line of it myself."

Producer: "Then I am very pleased
to meet you, Mr. Shakespeare."

College Life.

"There's one time when a man's

brain don't count."

"When is that?"

"When he's punching an adding
machine."

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SAME OLD SERVICE

ART OF HARDENING COPPER NOT A MYSTERY.

It has been a tradition that the ancients were able to harden copper and to give to implements fashioned of that metal, fine and fairly lasting cutting edges. Some modern metallurgists, on the other hand, have frequently declared that the ancients were unable to do anything of the kind. Recently, an issue of Research Narratives, was devoted to hardening copper; and the topic was treated in the spirit of a long-lost art recovered. The following text is taken verbatim from the bulletin mentioned, and will probably prove of interest to many of our readers:

"There exists, on the part of those not intimately connected with the working of copper, a belief that the ancients had a method of hardening that metal, with which art we today are not familiar. The fact of the matter is that our present-day metallurgists not only understand how the ancients hardened their copper and bronze but also know how to produce copper and bronze products that are even harder than those left to us and which represent the evidence of the so-called lost art of hardening copper.

"Cutting edges developed on swords, daggers, knives and other implements by the ancients were obtained by hammering the metal, or, in other words, cold working. Those old metal workers not only hand-hammered their copper implements but also used the same means to harden their bronze articles. The heating of many of these products in open fires resulted in the formation of considerable copper oxide, which alloyed with the copper and hardened it. One of the most common mistakes of persons claiming to have rediscovered 'the lost art of hardening copper' is to heat it in a forge and in this way to saturate it with copper oxide, which combines with the copper to form a much harder and more brittle product.

"There are really two methods of hardening copper that are regularly practiced nowadays, just as they were centuries ago. One consists in alloying the copper with some other metal, or several other metals—such as zinc, tin, nickel, cadmium, chromium, cobalt, silicon, aluminum, iron, beryllium, and arsenic. The second method consists in cold working the metal to such a stage of hardness that a slight amount of additional work will cause it to break.

The explanation of all copper hardening may be attributed to one of these methods, or a combination of them. Microphotographs of an ancient copper spearhead indicated that it was extremely hard and that this hardness apparently had been obtained by cold working.

"Copper scissors, knives, and other cutting tools may be obtained. Unless, however, a special reason exists for their use, they offer no advantages over tools made from steel. Occasionally, it becomes necessary to use copper or bronze tools, such as knives. Around a powder plant, for instance, where sparks must be avoided, bronze knives are almost essential.

"The actual hardness of annealed commercial copper, as determined by the Brinell machine, is from 40 to 50. The hardness of cold-worked pure copper probably does not exceed 120 Brinell. The hardness of copper that has been alloyed with some other metal, or a number of metals, rarely exceeds 250 Brinell, although a maximum hardness just over 300 has been attained. As a basis of comparison, it may be stated that the Brinell hardness of every 'soft' iron is around 80 and of steel in common cutlery, such as a finished pocket knife, about 420 Brinell.

"Not only do many persons spend a short while trying to rediscover an art that never was lost, but some of them devote a whole lifetime to this effort. The tragedy, or rather the denouement, occurs when they have evolved a hard copper. They next attempt to find some use for it and then learn that, unless it has some special properties, no market exists.

"Copper wire, hard drawn, has a tensile strength of about 65,000 pounds per square inch, and an elongation in 10 inches of about one per cent, with a conductivity of about 97 per cent. This affords some basis on which to work when endeavoring to develop the hardening of copper. If, for example, it were possible to harden copper so that the tensile strength were materially increased about that just stated, without reducing the conductivity, a worthwhile discovery would be made.

"Some recent methods of hardening copper by alloying have come about as near to actually 'tempering' copper as would seem possible. In these methods the metal silicon plays a most important part because it forms silicides with other metals which, in turn, form eutectics with the copper. The deoxidizing effect

that silicon by itself exerts plays no unimportant part in finally allowing the metal to be worked and, by heat treatment, to develop a high strength with a relatively high conductivity. This latter, however, is considered below that of pure copper, and second only—speaking of alloys from the standpoint of both strength and conductivity—to those of copper and cadmium. Alloys of copper with cadmium give, for a stated conductivity, higher strengths than those with silicon."

OUR GYM FLOOR.

Hey fellows! Did you notice that floor at Jackling gym last Friday evening? It sure was keen, and incidentally a few degrees different than the surface of the said floor at the Junior class dance. It is just a matter of a little care and wax. Since the basketball team is not practicing at the present, it is only fair to the dancers to give them a real treat in line of superior dance floors.

It was just a matter of four pounds of good wax evenly put on the floor and boy! did it shine? Dancing would be more of a pleasure if real care were taken of the floor and not practically neglected as is such the case at present.

The New Electricity.

He (attempting to start car): This darned self-starter won't work! There is a short circuit somewhere.

She: Well, why don't you lengthen it, dear?

He—If you keep looking at me like that, I'm going to kiss you.

She—Well, I can't keep this expression much longer.

Women are steadier drivers than men, say scientists. But a woman can use both hands for driving.—Minn. Ski-U-Mah.

As one Gold Dust Twin said to the other: "Lux against us."

After all, fashions move in cycles. When some of us were younger, boys slicked their hair back with bear's grease.

Some people go right on spending their money for beefsteak and clothes when they haven't a car to their name.

When a small boy refuses a second doughnut, it's a sign there is something wrong with him—or the doughnut.

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