

The Bee's Home Magazine Page

Universe a System of Harmonious Vibrations

By GARRETT P. SERVISS.

"Is it true that when a sound is so high pitched that we cannot hear it, it turns into some color, i. e., affects our optic nerve?" is the difference of colors due to the vibrations of matter? May matter itself eventually be resolved into different rhythmic motions?—M. M. Borough of Bronx.

To answer your first question consider these facts:

Sound is due to a vibration of matter (either gaseous, liquid or solid) of such a character and frequency that it affects our auditory nerves with a sensation which we call hearing. Ordinary sounds are conveyed to our ears by vibrations of the atmosphere, which consists of a mixture of gases. These vibrations are known as "sonorous waves." According to Helmholtz's experiments, the ear cannot detect any sound if the number of vibrations per second is less than sixteen or more than 20,000. But this is an extreme estimate. All ordinary musical sounds are comprised between forty and 4,000 vibrations per second, covering about seven octaves. The lengths of the sonorous waves corresponding to frequencies of forty and 4,000 per second are respectively twenty-eight feet and twenty-eight one hundredths of a foot, the latter being a trifle more than three and one-third inches.

Now, turn to light. Light is due to a vibration of a medium called the ether, or "luminiferous ether," which is supposed to pervade all space and to pass freely through all matter, while being itself exempt from the ordinary limitations and properties of matter. Just as in the case of sound, the vibrations that give rise to the sensation of light belong to a series of waves only a small part of which possess the requisite length and frequency necessary to affect the organs of sight. It is important to remember the distinction that the "light waves" are in the ether, while the "sound waves" are in the atmosphere, or some other ordinary material substance.

If the rapidity of the vibrations in the ether is less than about 400 million-million per second, or more than 600 million-million per second they make an impression on the optic nerve and we see no light. The wave lengths corresponding with the frequencies just mentioned are respectively about one 20,000th of an inch, and one 50,000th of an inch.

Within these limits notable differences in the effects produced upon the eye by waves of various lengths occur. These differences are the origin of colors. The longest and slowest of the waves included in the limits named above produce the sensation of red; the shortest and most rapid produce the sensation of violet; intermediate waves produce the sensations of orange, yellow, green, blue, indigo and intermediate shades. When all the luminous waves are blended together in the eye they give the effect of white light.

From what has just been said you will see that it would be impossible for such a direct relation, as your question indicates, to exist between the vibrations of sound and those of light. A sound that becomes so shrill that it passes upward on the gamut beyond the reach of the ear may still be a sound for some creature, like an insect, with an organ of vision constructed to respond to vibrations of very high frequency. But it could not merge into the minute etheric vibrations that produce the sensation of color without itself in some manner passing over from the realm of ordinary matter into that of extraordinary matter, which seems to be occupied by the ether.

We have no direct knowledge of any such correspondence, but I am far from thinking that it does not exist. The answer to your second question plainly suggests that it does exist, because that answer is that the difference of colors is due to vibrations of matter—the matter of which the optic nerve and the brain are composed. And since the vibrations which produce the sensation of light and color are, originally, in the ether, they must, in some manner, be able to pass over to ordinary matter, else they could not cause any sensation. It is something like what occurs when sonorous waves conveyed through the air from a musical string set another musical string to vibrating the same note. The air is an incomparably rarer substance than the string, and similarly the ether is incomparably rarer than the substance of the auditory nerve.

The third question leads to speculative ground, which could not be traversed at the end of a brief article. It touches the vast problem of the nature of matter, which is now occupying the best powers of the greatest living thinkers and observers. I may say, however, that everything at present seems to indicate that motion of a rhythmic character does lie at the basis of matter. It is often said, nowadays, that matter is simply electricity in motion, but that does not convey any clear idea to the mind, because we do not yet know what electricity is, while there are speculative intellects whose vertiginous excursions would upset all our ordinary notions about motion.

Togo and the Hon. Alive Lobster

Republished by Permission of Good Housekeeping Magazine

By Wallace Irwin

"Fifty-Fifty"

By ADA PATTERSON.

A Brooklyn judge has been compelled regretfully to admit that what a woman saves out of the money her husband has given her isn't

hers, but his. Laurence Court Justice Blackmar's decision was a precedent in a long list of cases among married women in New York. The more were they disturbed because the admission was made not with "the background of passion" that President Wilson deplores in any discussion, but in the calm tone that voices the inexorable.

"I regret to say that our law has not reached the point of holding that property which is the joint result of the earnings of the husband and the economies of the wife, is their joint property. No matter how careful and prudent the wife may be and no matter if her prudence is really the cause of the accumulated savings. If the money originally belonged to the husband, it is still his, unless the evidence shows that it was a gift to the wife."

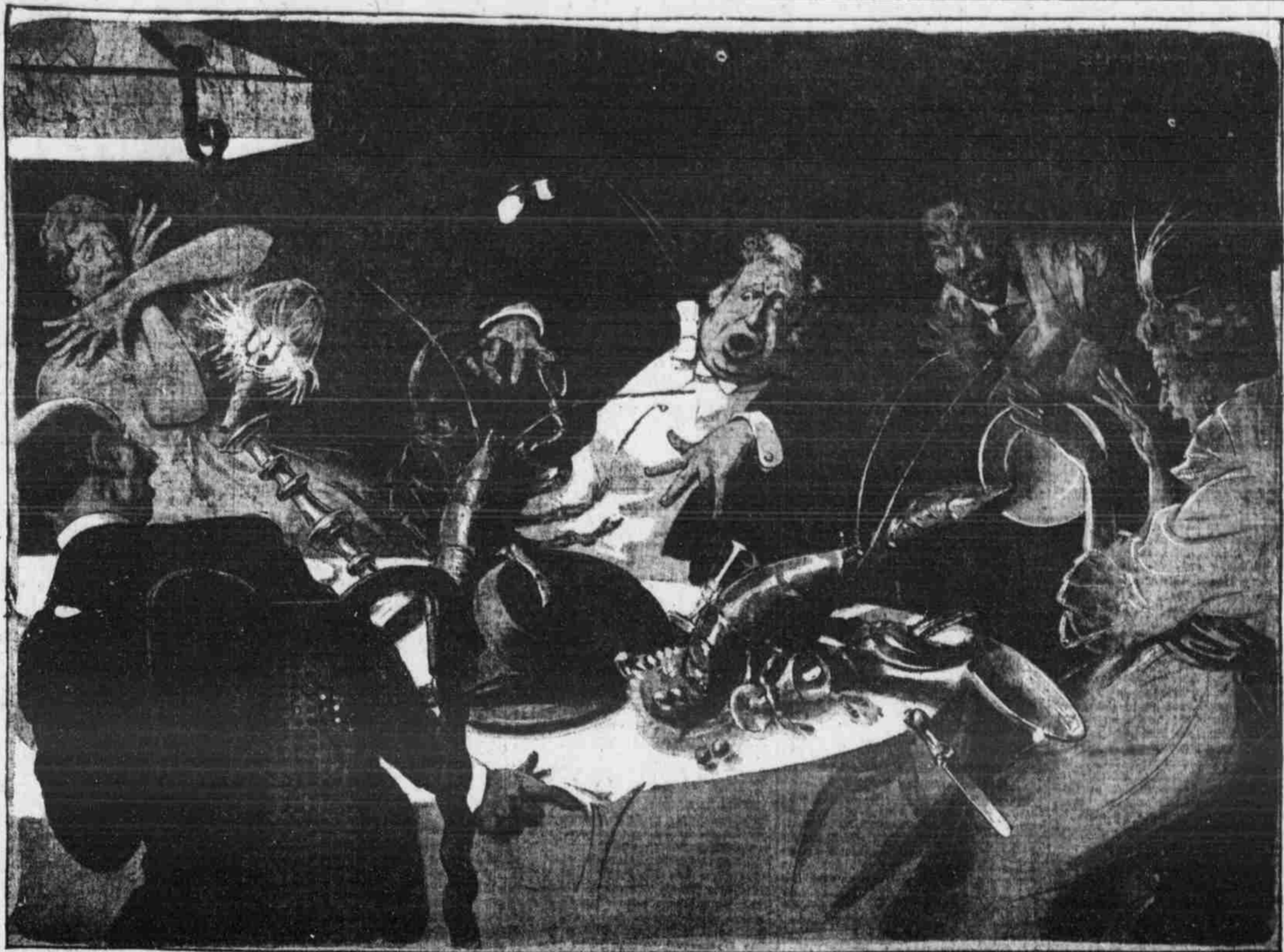
"Charles S. Montgomery had made no such gift. Not he. And when he and his wife quarrelled, and a separation was being considered, he tried to withdraw their savings account he discovered that his wife had ordered the bank to refuse payment. Charles S. Montgomery rushed to the court with his troubles with the result I have detailed."

What's the moral? That wives shouldn't save? Maybe we're getting at the root of woman's extravagance. Having an intuition, if not absolute knowledge, that their husbands not themselves will enjoy the sum of their economies they don't economize, or, if they love their lords enough to economize for them, they may have the fear of the other woman in their hearts, the woman who may become Madame No. 2. The ancient adage, and one that brings a sheen of steel into a first wife's eyes, that the first wife saves money for the second one to spend. And another reason for woman's disinclination to hoard for a problematic day of rainfall is "if I don't spend the money it will go for worse uses." A woman hates to see the pennies for which she has skipped go down her spouse's throat in the front of firewater.

To learn that the law is so crankingly ancient and inadequate as in the instance ruled upon by the Brooklyn judge is to recall what Dickens made a character say: "Does the law say that? The law is an ass."

Almost does the discovery of the Brooklyn justice make suffragettes of us all. Some states there are that go still farther back toward barbarism; antiquity, by denying a woman the right to her own savings. Not only does she not own what her husband owns, but he acquires full and instant ownership in what she earns. The words "joint fair" generally start a skirmish on the school grounds. Every woman is, who digested with her morning grapefruit or baked apple the unwelcome truth spoken by the Brooklyn justice of the supreme court exclaimed "Taint fair" or its equivalent. It will arouse women. And when women are aroused something happens. What will happen? Will women exclaim "What's the use?" and justify the charge that they are extravagant? Or will they create a public sentiment that will eventually in a public demand for fairer laws?

"Money saved is money earned" would be the slogan for such a movement and just husbands would join in its utterance. Young man, if the girl upon whom your eye is cast is too much a fool to save and share your money she is too much a fool to marry.



Hon. Major Button was just telling how he shook hands with Kaiser of Germany. When Hon. Lobster grabbed that hand he seemed less brave. Languages, howells, orations, retreat are heard from all sides!

Copyright, 1915, Star Co., Great Britain Rights Reserved.

"To Editor 'Good Housekeeper Magazine,' who print said paper full of married trouble.

Dear Sir: Quite recently I retreated from work of job at home of Mrs. Henry Toothmuller, Wounded Leg, Conn. Her husband is also named Henry but is called Dearly for spite.

When I approach to this home I find her standing there in Paris kimono showing sweathearted expression of fashionable hair. You might tell how socially she was by her frozen language when spoken to servants.

"Togo," she says so hotly, "are you a plain cook or a fanciful cook?" "I can cook all varieties of imaginative pie," an smart reply for me. "So good!" she snub with Marlborough eyebrows. "Too many cooks attempt to cover their Irish with French. I shall expect you to be Delmonico even while frying ham."

"I admire your expectancy." This from me. "Tonight we have arranged slight dinner—let's include two (2) wealthy Wall street brokers & wife who are celebrated for their snobbish digestions. You must appease them with following program of foods:

- Canopy of Caviar
- Risotto of Soup
- Lozenges
- Squab Ducks
- Meatwursts Delicateness
- Fruited Sorbettes from Cream
- Cafe Annoyer

She told me thus while arranging Newport fingers among her hairpins. "Why don't you reply while you stand there snuttily?" she ask to know. "Is there some cookery in this bill affair which you can't understand?" "Simply nothing," I report deceptively. "You understand how serve alive lobsters?" "Courseously," I suggest. "I can attend their slightest whim."

"Then do so," she exaggerate. "With immediate quickness expose to fishery merchant & buy three (3) of those delicious mammals sufficient for six (6) complete persons. Dinner will be served with sharpness at 7."

She go. I go. Mr. Editor, when I encroached to fishery store of Capt. Smith & Co., prominent sea-fooders, my soul stood endwise to see what was. I learned considerable educational biography about those abal fish. A lobster is a species of green clam with 26 legs & 2 arms which are continuously determined to shake hands. He wears his eyes on the end of strings and expresses his peeve by waving his iron mittens with teeth on the thumbs. "Why should it contain such cruelty of fingers?" I require of Hon. Capt. Smith, retired navy. "To bite with," he tells saltwaterfully. "Nothing can bite with fingers," I reproach educationally.

"Perhaps not," suggest Hon. Capt., while one lobster grab me by knuckle and remove off one bleeding fracture, while I report, "Ouch!" I should disgust to such dishagreeable natures. At last those three (3) lobster dishes was unwrapped in paperboard box and I disgorged in homeboard direction of street. Even to carry such menagerie give me creepy sensation peculiar to venom. As soon as I arrive to kitchen I commence deranging dinner for six (6) personalities. Risotto of soup I can cook somewhat, so I do so in intelligent success. Slightly squab ducks I could also prepare by memory of some I had ate. Extreme industry, too, filled my earnest eyebrow while I turn loomscam

fronter with musical elbows peculiar to handorgan.

In the meanwhile those three (3) crabbed lobster-birds was setting in ice box where they were still retained in case in which they came in. Samurai Japanese know no fear except when they are scared. I enjoy slight dread to think how I should behave when bringing those rude snappers forthly from where was. Should I grab them by tail-feathers and strangle them defly by ju-jitsu? Perhaps could Stranger battles have occurred in kitchen.

At 8:00 p. m. time Hon. Mrs. come snapping to kitchen and wish find some unpleasantness to speak about. "Did you obtained those lobsters?" she asked to know.

"Certainly has," I report dubiously. "You sure they was alive?" are question for her.

"Quite distinctly," I acknowledge while seeing my wounded knuckle. "I am still suspicious," she reneig snudibly. "Last time they sent some dead. Let me observe them to examine."

With duty peculiar to militia I lead her to ice-box. I open. I show her paperboard enclosure. This I open also. No sooner this were accomplish than one lobster-animal uplift his bone gloves with such rapidity he detain Hon. Mrs. by wrist of her Paris kimono while she exclaim. "Help!" amidst considerable soprano.

Chivalrously I permit Hon. Lob to shake hands with my necktie while I spy him loose from her with fearless ice-pick. When I drop him away he were still chewing a 1-1/2 yards kimono silk which he held in the teeth of his fingers.

"That one are alive," report Hon. Mrs. while fainting away. "You wish to examine life of other?" I require obligingly.

"Thanks not to do," she shriech. "I prefer to imagine it."

When 8:44 time arrive income Hon. Mr. Henry Toothmuller in fat-shaped limousine ottomobile contained 2 pairs of marroon persons of expensive appearance peculiar to Cesar family. I hear stylish how-do talk amidst cocktail, shake-up which all drink for make them joy-free before eating. All seem quite joy-free and slight-hearted except me who stood in kitchen making superstitious eye-glance toward ice-box. Then I knew how martyrs must feel when observing bonfires.

"Dinner ready!" required Hon. Mrs. making beautiful head-poke to door. "Ready for anything?" I salute. And when neatly seen I was thrusting canopy of caviar surrounded by salary-sprout before front of those paters who surrounded platter with evening clothes and talked wealthy language. One fat-chin gentleman name of Maj. Button explained how he had frequently ate snails with King of Denmark and noising in America are fit to eat by aristocrats.

"Could you not enjoy some lobsters?" required Hon. Mrs. like a nurse. "Ravenously!" he report like a cannibal.

"We have some!" she say so while smiling. "O joyfully!" all holla like chorus girls. Mrs. Cicero Nutt, slim-stripe lady of beauty, seem somewhat invalid of enthusiasm.

"I welcome lobster cordially while eating," she define, "yet I never could make it set quietly on my direction."

"I am enabled to withstand this possibility. Pretty soon I fetch soup and while do-

ing so I spill 1/2 portion of this thin hotness on expensive necktie of Hon. Mrs. Maj Button

"Why are you nervous wrists so uncontrolled?" dila Mrs. Boss while all make wipers from napkin.

"I am thinking lobster," I derive shiverly.

You are not permitted to think during meal-time!" she abrupt. "Now elope to kitchen and prepare those salt-water fowels and dish."

No soldier ever walked to gunpowder more straightly than I then did; I fetch forth delicious platter of silver appearance. I walk bravely to ice-box and there I say heathen prayer in Japanese. Inside that refrigerated compartment I could hear thump-thump, creep-creep sound resembling crocodiles attempting to escape from a garage. Of suddenly one puzzle-thought arrive to my brain. How should I dish out that lively food? I thought of gloves, I thought of knives. Then I remembered it are always polite to handle foods with forks. Lobsters must be speared thusly.

I fetch intense iron fork from kitchen table. With timid recklessness I open lid of box. Six bone hands reach up to greet my cruelty. Stabba! What happen? Nothing important. Hon. Fork skid off from hard-shell back of Hon. Lobster like needles from hickory nuts. But just as I were desperate from this battle one lobster retained himself by his hooked arms to handle of Hon. Fork—and what miracle to behold! All three (3) lobsters, conjoined together in friendship clasp, are fetched forthly by quick haul of fork. But before I could lift them politely to platter-dish those demented mammals separate away from each other and fell to floor with hard bang resembling living bricks. One skid away under table, one splouch off under stove, one detained himself to my apron, where he appear quite contented chewing clothes. I permit him to do so and shramble under furniture in pursuit of his twins.

In 94 minutes, by talented ju-jitsu, I retained those brutal beasts by tails. Bell ring peevly from dining room requiring more foods. But more earnestly I lay Hon. Lobster on platter, more skilfully he shuttle off. At last, by extreme talent, I manage to hold two (2) down to platter with frying pan on top. Other

one I could not do likewise because he were too busy attacking my ankle. Bell ring again peevly.

"I come!" I holla. And thusly, bearing alive lobster, I onrush to dining room quite hastily because lobster's attachment to ankle were causing hara-kari sensations.

"Where are alive lobsters?" snarrel Hon. Mrs. as soonly as I encroach. "Here! Ist I smagger, and push Hon. Platter to table in midst of home refinery."

What then? Frying-pan flew off, Hon. Lobster elope forthly without reverence. One walk for Hon. Mrs. Nutt who escape with nose resembling mice. One waits against Hon. Maj Button just while he were telling how he shook hands with Kaiser of Germany. When Hon. Lobster grab that hand he seem less brave. Languages, howells, orations, retreat are heard from all side! Meantime other lobster ate contentedly from my ankle.

Pretty soon, after considerable bayonet charge, faints and heroism, lobsters was kicked forth excepting me.

"What this?" yellup Hon. Mrs. when calm.

"Alive lobster," I acknowledge, thinking how far to railway station.

"How dare you?" she cut-try. "I never shall again," I suggest. "Yet duty make be heartless. Next family I work shall not have those Basco habits of food."

"I did not tell you to this dementia," she soder from sobbing. "Live lobsters should not be served alive."

"How can live lobsters be dead?" I smagger Bernard Shawfully. "If you remain so instant long I shall show you" growl Hon. Henry Toothmuller prizefightingly. "So I banished spryly away from that house with additional lobster still biting ankle with hunger peculiar to starved snake. Hoping you are the same. Yours truly, HASHIMURA TOGO.

one I could not do likewise because he were too busy attacking my ankle. Bell ring again peevly.

"I come!" I holla. And thusly, bearing alive lobster, I onrush to dining room quite hastily because lobster's attachment to ankle were causing hara-kari sensations.

"Where are alive lobsters?" snarrel Hon. Mrs. as soonly as I encroach. "Here! Ist I smagger, and push Hon. Platter to table in midst of home refinery."

What then? Frying-pan flew off, Hon. Lobster elope forthly without reverence. One walk for Hon. Mrs. Nutt who escape with nose resembling mice. One waits against Hon. Maj Button just while he were telling how he shook hands with Kaiser of Germany. When Hon. Lobster grab that hand he seem less brave. Languages, howells, orations, retreat are heard from all side! Meantime other lobster ate contentedly from my ankle.

Pretty soon, after considerable bayonet charge, faints and heroism, lobsters was kicked forth excepting me.

"What this?" yellup Hon. Mrs. when calm.

"Alive lobster," I acknowledge, thinking how far to railway station.

"How dare you?" she cut-try. "I never shall again," I suggest. "Yet duty make be heartless. Next family I work shall not have those Basco habits of food."

"I did not tell you to this dementia," she soder from sobbing. "Live lobsters should not be served alive."

"How can live lobsters be dead?" I smagger Bernard Shawfully. "If you remain so instant long I shall show you" growl Hon. Henry Toothmuller prizefightingly. "So I banished spryly away from that house with additional lobster still biting ankle with hunger peculiar to starved snake. Hoping you are the same. Yours truly, HASHIMURA TOGO.

Burlington Calendar of California Service

By Daylight Through Scenic Colorado

Every Day to Los Angeles:

Through Tourist Sleepers from Omaha at 4:10 p. m., via Denver, Rio Grande and Salt Lake Route; Personally Conducted Parties Wednesday and Saturdays; nine hours for sight-seeing in Salt Lake.

Through Standard Sleepers to Salt Lake, same route, with a few hours in Salt Lake; annex sleepers to Los Angeles.

Every Day to San Francisco:

Through Standard Sleepers from Omaha at 4:10 p. m., via Denver, over the Rio Grande and Southern Pacific; similar through sleepers over the Western Pacific.

Every Sunday, Tuesday and Thursday to Los Angeles:

Personally Conducted Through Tourist Sleeper Parties from Omaha at 4:10 p. m., going via Denver over the Rio Grande and Southern Pacific via San Francisco, thence Coast Line through Santa Barbara.

Every Wednesday, Friday and Saturday to San Francisco:

Through Tourist Sleepers from Omaha at 4:10 p. m., going via Denver, Salt Lake and the Feather River Canyon of the Western Pacific; Personally Conducted Parties Wednesdays and Fridays.

Whether you go direct to Los Angeles, or to San Francisco via Los Angeles, or to Southern California via San Francisco, you can go with our Personally Conducted Tourist Sleeper parties—widely known fixtures in the Burlington's passenger organization.

J. B. Reynolds, City Passenger Agent.

1502 Farnam Street.

Tel. D. 1238 or D. 3580.



"Others are Imitations"

The Food-Drink for all Ages. Rich milk, malted grain, in powder form. For infants, invalids and growing children. Pure nutrition, upbuilding the whole body. Invigorates nursing mothers and the aged. More healthful than tea or coffee. Take no substitute. Ask for HORLICKS.