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Our Cover

this month represents a scene from the story in this issue entitled, "To the Moon by Proxy," by J. Schlossel, in which Earl's "proxy," in his final test before he is sent on his trip to the moon, meets the lion in combat, on equal grounds. Shorn of every bit of clothing by the fury of the king of beasts, the strange being looks like an armored soldier astride the lion.

In Our Next Issue:

THE WORLD AT BAY, by B. and Geo. C. Wallis. (A Serial in Two Parts) Part I. Interplanetary stories always seem to please our readers. The application of the fourth dimension, in this story, enables the travelers to make the journey to the moon and back and around the earth in an astounding time that space of time. Our new author has given us a carefully studied out treat- ment of the subject of interplanetary travel, cleverly interwoven with romance and human psychology.

THE ANANIAS GLAND, by W. Alexander. What determines the extent of our truthfulness? It might very well be gladiatorial action of some kind. Mr. Alexander has given us several unusual stories of psychological import, and in this very short story he cleverly works up an idea of extreme interest.

THE PSYCHOPHONIC NURSE, by David H. Keller, M.D. Instead of contenting himself with the conception of new mechanical labor-saving devices—generally involved in the human scheme of life—Dr. Keller always goes further. He gives us, in a perfectly natural manner, the ultimate psychological effect of his mechanical innovation or inventions, on the human being. Though he never destroys—or even temporarilyp puts out of commission—his newly developed, under our Glad, when we finish the story, that we are still a little ahead of the invention.

THE EYE OF THE VULTURE, by Walter Kates. It is an established fact: by this time the human eye is limited in his vision of the colors of the spectrum, just as the ear is limited in its range of sound appreciation. And just as the power of vision varies among people, so it must differ much more drastically from that of animals, birds, insects, etc. A bird, for instance, may not see all we do; on the other hand, many things within the bird's visual range, may be completely out of ours. In this story, a number of theories, novel and interesting, but seemingly founded on scientific grounds, are introduced.
NEW AMAZING FACTS

By HUGO GERNSBACK

ONE of the amazing facts of progress is that in very many instances, science develops a goodly amount of inventions which were never even dreamed of by the most imaginative type of fiction writers. Science has the trick of springing continuous surprises, which very often are far more amazing than the most amazing piece of scientific fiction. Not long ago, the Kodak people announced a brand new system of colored motion pictures. Now colored motion pictures are a novelty no longer. They were usually produced by means of ordinary films, hand-painted, or colored by other processes. The astonishing thing about the new Kodacolor process, however, is the fact that the film is black and white. The light that strikes the film is white; yet, we get the most gorgeous colored motion pictures imaginable and entirely true to life in all of the colorings. You will see them on the screen a bowl of goldfish in the most marvelous colors imaginable; and yet, the film itself is in black and white. The process in which the final result is achieved is intensely interesting, and is the subject of a detailed article, fully illustrated, in the October issue of SCIENCE AND INVENTION.

Suffice to say, the process is made possible by emulsifying the film lengthwise in such a way that the film itself becomes a mass of lenses, which are microscopic in size; yet which provide an entirely new optical system by which the final colors become possible.

Here then, is another invention which would have been denounced as extravagant fiction only a few years ago.

And when we come to television, which has been the favorite subject for exploitation by our scientific writers, we are no longer astonished, because this imaginary television has now become an accomplished fact. The marvel of present television, crude as it is, lies in the fact that it is given by a revolving disc with a few holes in it, which faithfully brings a distant event to us, by wire or by radio.

But even few of our science fiction writers thought that it would ever be possible to transmit color television; yet, recently this also has been accomplished by Mr. Baird of London, with a comparatively simple system. All Mr. Baird does is to divide his television disc into three parts, then he covers the spiral holes with red, blue and yellow transparent strips and exposes his subject in the usual way. He thus transmits impulses in various intensities, due to the color ranges. At the receiving end, we have a duplication of the transmitter, with a similar disc, and as we look at this disc in a darkened room, we obtain actual television images in colors. So here we have another great scientific triumph, which was not expected for at least fifty years.

Again, our best scientists, who seem to know all about television, predicted only last Fall that outdoor scenes could not be transmitted by television for at least five to ten years. They contended that it would not be possible to transmit anything better than a human face or a moving hand by television impulses. Yet, only last July, the Bell Telephone Laboratories sent out television images of a tennis player, while he was playing in broad daylight. So the time is not distant when it will be possible for us to witness a ball game a thousand miles away. Nor will it be long before every radio enthusiast, sitting in his home, will be able to see a prizefight, in all its interesting and brutal details, while it is being fought.

So we see that science is catching up with fiction and prediction rather quickly, and our imaginative fiction writers will soon be hard pressed for new ideas in order to keep in the swim.

For a number of years, imaginative writers have been busy exploiting the Goddard rocket. Of course, most of them exploited the rocket for interplanetary travel. The time seems close at hand when such a machine will actually be launched. At this very moment, in Germany, extensive tests and experiments are being made along these lines. The Germans, von Opel and Saenger, have already constructed automobiles propelled by rockets, which were used both on railroad tracks and the ordinary cement roads. Speeds as high as 160 miles an hour have been reached on rails, which is faster than any car ever traveled on rails before. And this is only a beginning.

This generation will see rocket-propelled aerial conveyances negotiating the trip from Berlin to New York in three hours. In order to do so, the machine will have to fly partially in a vacuum. The rocket machine will be directed heavenward and will have to climb up two or three hundred miles to reach the outer confines of the atmosphere, then it will straighten out and will begin descending in a great curve, with New York as its next objective.

Naturally, so as not to freeze and kill the passengers, they will have to be in airtight compartments. As a matter of fact, the entire inside of the machine will have to be airtight. The machine will carry its own air and oxygen and will generate its own heat.

The interesting point to remember is that at these tremendous speeds, entirely new and unforeseen things happen. A German engineer recently pointed out that at such speeds—that is 1,000 miles an hour—the usual airplane wings would be useless. At such a speed an ordinary hospital would go clean through a thin metal airplane wing as though it were shot through by a high-speed bullet. Consequently, these new aerial monsters of the future will have to be built of entirely new metals, tougher than steel, to withstand even the shocks of large dust particles, which, encountered at a speed of a thousand miles an hour, will raise havoc, due to their impact upon the machine.

All surprising facts, and as interesting as they seemed astonishing and impossible, only a few short years back.
"TELEVOX" THE MECHANICAL MAN

If you believe that the accompanying story is too fantastic, may we call your attention to the fact that a great deal of scientific work has already been accomplished along similar lines? Recently, the Westinghouse Electrical Manufacturing Company put out a mechanical man called the "Televox."

This machine is placed in your own home, and connected to it there is a vacuum cleaner, electric fan, and a number of other household appliances.

This mechanical man is operated entirely at a distance, and is attached to your home telephone. You call up your home 'phone and by means of whistle blasts, you can make the Televox do almost anything, from starting the carpet sweeper to starting and stopping the fan, opening or closing the windows, operating the ice cream freezer and performing other useful work, although you may be a thousand miles away from him. Not only that, but the mechanical man has also a voice; he can answer the telephone and he will say, if necessary, "Televox speaking at Randolph 6400." This he will repeat a second time, and if you do not give him the proper signal by means of whistles or other musical devices, the Televox will then hang up the receiver, upon the assumption that the call was the wrong number called. Many interesting uses have already been found for the mechanical man.