



JULES VERNE'S TOMBSTONE AT AMIENS  
PORTRAYING HIS IMMORTALITY

# AMAZING STORIES

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## In Our Next Issue:

**REMOTE CONTROL**, by Walter Kateley. Due to the decrease of our advertising, our extra 16 pages were discontinued, which in turn crowded this story out from this issue also.

**THE GREEN GIRL** (a serial in 2 parts), Part II, by Jack Williamson. In the concluding chapters of this classic the author continues the accelerating pace set in the first instalment. The only intelligence we know of now is that which is housed in the human body. But is it really necessary for intelligence to have only such a habitation? Why might it not just as easily send out its influence through some other force, about which we know nothing at the present time? It seems to us not only possible, but probable, that there is such a force somewhere and may even some day be discovered. "The Green Girl" will, we are sure, rank in your favor with a number of your favorites, among which we unhesitatingly mention "The Moon Pool" and "The Skylark of Space."

**THE CONQUEST OF THE EARTH**, by Isaac R. Nathanson. Although this story about an Andromedan invasion of the earth is by an author who is new to our readers, the story reads like an old favorite. Mr. Nathanson has not only made a careful check on his science, but he has the gift of fiction writing. And we know you will welcome the announcement that there will be more by him soon.

**THE METAL HORDE**, by John W. Campbell, Jr. Here is another interplanetary story by our young scientist author that is even better than his previous ones. We can leave it to Mr. Campbell to give us a unique tale, original in its conception and ingeniously worked out.

**THE FEATHERED DETECTIVE**, by A. Hyatt Verrill. Under this author's skilful handling this tale has an individuality that easily stands with the best scientific detective story. The green turacou and the change of color of its plumage when wet is a much debated subject among ornithologists. Mr. Verrill knows his subject. We feel no more need be said.

## In Our March Issue:

**The Green Girl**  
(A serial in 2 parts) Part I  
By Jack Williamson..... 1110  
Illustrated by Wesso

**The Ship That Turned Aside**  
By G. Peyton Wertenbaker..... 1130  
Illustrated by Morey

**The Gostak and the Doshes**  
By Miles J. Breuer, M.D..... 1142  
Illustrated by Morey

**Callisto at War**  
By Harl Vincent..... 1150  
Illustrated by Morey

**Lanterns of God**  
By Robt. A. Wait..... 1168  
Illustrated by Morey

**The Mordant**  
By Merab Eberle..... 1181  
Illustrated by Morey

**What Do You Know?**  
(Science Questionnaire)..... 1185

**Discussions**..... 1186

**In the Realm of Books**  
(Mostly Scientific Fiction)..... 1188

### Our Cover

this month depicts a scene from Part I of the story entitled, "The Green Girl," by Jack Williamson, in which the ship, built by the hero scientist to move through air, on the surface of the ground and through water, with equal adaptability, is shown breaking through the overlying water at the bottom of a certain point of the Pacific to a city under the ocean. The city is enabled to keep the ocean as a roof by virtue of a gas, which the intelligences inhabiting this sub-sea city have invented.

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Everything is relative . . . . .

*There seems to be very little doubt about that statement. We can't just "move"; we must move in relation to something else. This brings us to the question of "relativity" and Einstein. And in the matter of gravitation. It is very likely that no one will ever know what it is. Acceleration may increase our apparent weight; inertia may do the same, but neither is gravitation. But let Dr. Breuer talk for himself. Unless we very much miss our guess, "The Gostak and the Doshes" is going to create a lot of "distimming." But be sure to read the story when your mind is thoroughly clear and rested. There will be a marked difference in your reaction.*

The

# Gostak and the

# Doshes

Illustrated by  
MOREY

By Miles J. Breuer, M.D.

*Author of "The Book of Worlds," "The Captured Cross-Section," etc.*

LET the reader suppose that somebody states: "*The gostak L distims the doshes.*" You do not know what this means, nor do I. But if we assume that it is English, we know that the *doshes* are *distimmed* by the *gostak*. We know that one *distimmer* of the *doshes* is a *gostak*. If, moreover, *doshes* are galloons, we know that some galloons are *distimmed* by the *gostak*. And so we may go on, and so we often do go on.—Unknown writer quoted by Ogden and Richards, in *THE MEANING OF MEANING*, Harcourt Brace & Co., 1923; also by Walter N. Polakov in *MAN AND HIS AFFAIRS*, Williams & Wilkins, 1925.

"WHY! That is lifting yourself by your own bootstraps!" I exclaimed in amazed incredulity. "It's absurd." Woleshensky smiled indulgently. He towered in his chair as though in the infinite kindness of his vast mind there were room to understand and overlook all the foolish little foibles of all the weak little beings that called themselves men. A mathematical physicist lives in vast spaces where a light-year is a footstep, where universes are being born and blotted out, where space unrolls along a fourth dimension on a surface distended from a fifth. To him, human beings and their affairs do not loom very important.

"Relativity," he explained. In his voice there was a patient forbearance for my slowness of comprehension.

"Merely relativity. It doesn't take much physical effort to make the moon move through the treetops, does it? Just enough to walk down the garden path."

I stared at him and he continued:

"If you had been born and raised on a moving train, no one could convince you that the landscape was not in rapid motion. Well, our conception of the universe is quite as relative as that. Sir Isaac Newton tried in his mathematics to express a universe as though beheld by an infinitely removed and perfectly fixed observer. Mathematicians since his time, realizing the futility of such an effort, have taken into consideration that what things 'are' depends upon the person who is looking at them. They have tried to express common knowledge, such as the law of gravitation, in terms that would hold good for all observers. Yet their leader and culminating genius, Einstein, has been unable to express knowledge in terms of pure relativity; he has had to accept the velocity of light as an arbitrarily fixed constant. Why should the velocity of light be any more fixed and constant than any other quantity in the universe?"

"But, what's that got to do with going into the fourth dimension?" I broke in impatiently.

He continued as though I hadn't spoken.

"The thing that interests us now, and that mystifies modern mathematicians, is the question of movement, or



*I gasped in astonishment. The building was indeed below me. I looked down upon it from an elevation.*

more accurately: translation. Is there such a thing as *absolute translation*? Can there be movement—translation—except in *relation* to something else than the thing that moves? All movement we know of is movement in relation to other objects, whether it be a walk down the street, or the movement of the earth in its orbit around the sun. A change of *relative* position. But the mere translation of an isolated object existing alone in space is mathematically inconceivable; for there is no such thing as space in that sense."

"I thought you said something about going into another universe—" I interrupted again.

You can't argue with Woleshensky. His train of thought went on without a break.

"By translation we understand getting from one place to another. 'Going somewhere' originally meant a movement of our bodies. Yet, as a matter of fact, when we drive in an automobile, we 'go somewhere' without moving our bodies at all. The scene is changed around us; we are somewhere else; and yet we haven't *moved* at all.

"Or suppose you could cast off gravitational attraction for a moment and let the earth rotate under you; you would be going somewhere, and yet not moving—"

"But that is theory; you can't tinker with gravitation—"

"Every day you tinker with gravitation. When you start upwards in an elevator, your pressure, not your weight, against the floor of it is increased; apparent gravitation between you and the floor of the elevator is greater than before—and that's like gravitation is anyway: inertia and acceleration. But we are talking about translation. The position of everything in the universe must be referred to some sort of coordinates. Suppose we change the angle or direction of the coordinates: then you have 'gone somewhere' and yet you haven't moved, nor has anything else moved."

I looked at him, holding my head in my hands.

"I couldn't swear that I understand that," I said slowly. "And I repeat, that it looks like lifting yourself by your own bootstraps."

The homely simile did not dismay him. He pointed a finger at me as he spoke:

"You've seen a chip of wood bobbing on the ripples of a pond. Now you think the chip is moving; now the water. Yet neither is moving; the only motion is of an abstract thing called a wave.

"You've seen those 'illusion' diagrams, for instance this one of a group of cubes. (Diagram is on opposite page.) Make up your mind that you are looking down upon their upper surfaces, and indeed they seem below you. Now change your mind, and imagine that you are down below, looking up. Behold, you see their lower surfaces; you are indeed below them. You have 'gone somewhere,' yet there has been no translation of anything. You have merely changed coordinates."

"Which do you think will drive me insane more quickly—if you *show* me what you mean, or if you keep on talking without showing me?"

"I'll try to show you. There are some types of mind, you know, that cannot grasp the idea of relativity. It isn't the mathematics involved that matters; it's just the inability of some types of mental organization to grasp the fact that the mind of the observer endows his environment with certain properties which have no absolute existence. Thus, when you walk through the garden at night the moon oats from one tree top to another.

Is your mind good enough to invert this: make the moon stand still and let the trees move backwards. Can you do that? If so, you can 'go somewhere' into another dimension."

WOLESHENSKY rose and walked to the window. His office was an appropriate setting for such a modern discussion as was ours; situated in a new, ultra-modern building on the University campus, the varnish glossy, the walls clean, the books neatly arranged behind clean glass, the desk in most orderly array; the office was just as precise and modern and wonderful as the mind of its occupant.

"When do you want to go?" he asked.

"Now!"

"Then, I have two more things to explain to you. The fourth dimension is just as much *here* as anywhere else. Right here around you and me things exist and go forward in the fourth dimension; but we do not see them and are not conscious of them, because we are confined to our own three. Secondly: if we name the four coordinates as Einstein does,  $x$ ,  $y$ ,  $z$ , and  $t$ , then we exist in  $x$ ,  $y$ , and  $z$ , and move freely about in them; but are powerless to move in  $t$ . Why? Because  $t$  is the time dimension; and the time dimension is a difficult one for biological structures that depend on irreversible chemical reactions for their existence. But, biochemical reactions can take place along any one of the other dimensions as well as along  $t$ .

"Therefore, let us transform coordinates. Rotate the property of chemical irreversibility from  $t$  to  $z$ . Since we are organically able to exist (or at least to perceive) in only three dimensions at once, our new time dimension will be  $z$ . We shall be unconscious of  $z$  and cannot travel in it. Our activities and consciousness will take place along  $x$ ,  $y$ , and  $t$ .

"According to fiction writers, to switch into the  $t$  dimension, some sort of an apparatus with an electrical field ought to be necessary. It is not. You need nothing more to rotate into the  $t$  dimension than you do to stop the moon and make the trees move as you ride down the road; or than you do to turn the cubes upside down. It is a matter of *relativity*."

I had ceased trying to wonder or to understand.

"Show me!" was all I could gasp.

"The success of this experiment in changing from the  $z$  to the  $t$  coordinate has depended largely upon my lucky discovery of a favorable location. It is just as, when you want the moon to ride the tree tops successfully, there have to be favorable features in the topography or it won't work. The edge of this building and that little walk between the two rows of Norway poplars seems to be an angle between planes in the  $z$  and  $t$  dimensions. It seems to slope downwards, does it not?—Now walk from here to the end and imagine yourself going upwards. That is all. Instead of feeling this building behind and *above* you, conceive it as behind and *below*. Just as on your ride by moonlight, you must tell yourself that the moon is not moving while the trees ride by—Can you do that? Go ahead then." He spoke in a confident tone, as though he knew exactly what would happen.

Half credulous, half wondering, I walked slowly out of the door; I noticed that Woleshensky settled himself down to the table with a pad and a pencil to some kind of study, and forgot me before I had finished turning around. I looked curiously at the familiar wall of the

building and the still more familiar poplar walk, expecting to see some strange scenery, some unknown view from another world. But there were the same old bricks and trees that I had known so long; though my disturbed and wondering frame of mind endowed them with a sudden strangeness and unwontedness. Things I had known for some years, they were, yet so powerfully had Woleshensky's arguments impressed me that I already fancied myself in a different universe. According to the conception of relativity, objects of the  $x, y, z$  universe ought to look different when viewed from the  $x, y, t$  universe.

Strange to say, I had no difficulty at all in imagining myself as going *upwards* on my stroll along the slope. I told myself that the building was behind and below me, and indeed it seemed real that it was that way. I walked some distance along the little avenue of poplars, which seemed familiar enough in all its details; though after a few minutes it struck me that the avenue seemed rather long. In fact, it was much longer than I had ever known it to be before.

With a queer Alice-in-Wonderland feeling I noted it stretching way on ahead of me. Then I looked back.

I gasped in astonishment. The building was indeed *below* me. I looked down upon it from the top of an elevation. The astonishment of that realization had barely broken over me, when I admitted that there was a building down there; but what building? Not the new Morton Hall, at least. It was a long, three-story brick building, quite resembling Morton Hall, but it was not the same. And on beyond there were trees with buildings among them; but it was not the campus that I knew.

I paused in a kind of panic. What was I to do now? Here I was in a strange place. How I had gotten there I had no idea. What ought I to do about it? Where should I go? How was I to get back? Odd that I had neglected the precaution of how to get back. I surmised that I must be on the  $t$  dimension. Stupid blunder on my part, neglecting to find out how to get back.

I walked rapidly down the slope toward the building. Any hopes that I might have had about its being Morton Hall were thoroughly dispelled in a moment. It was a

totally strange building, old, and old-fashioned looking. I had never seen it before in my life. Yet it looked perfectly ordinary and natural, and was obviously a University class-room building.

I cannot tell whether it was an hour or a dozen that I spent walking frantically this way and that, trying to decide to go into this building or another, and at the last moment backing out in a sweat of hesitation. It seemed like a year, but was probably only a few minutes. Then I noticed the people. They were mostly young people, of both sexes. Students, of course. Obviously I was on a University campus. Perfectly natural, normal young people, they were. If I were really on the  $t$  dimension, it certainly resembled the  $z$  dimension very closely.

Finally I came to a decision. I could stand this no longer. I selected a solitary, quiet-looking man, and stopped him.

"Where am I?" I demanded.

He looked at me in astonishment. I waited for a reply, and he continued to gaze at me speechlessly. Finally it occurred to me that he didn't understand English.

"Do you speak English?" I asked hopelessly.

"Of course!" he said vehemently.

"What's wrong with you?"

"Something's wrong with something," I exclaimed. "I haven't any idea where I am or how I got here."

"Synthetic wine?" he asked sympathetically.

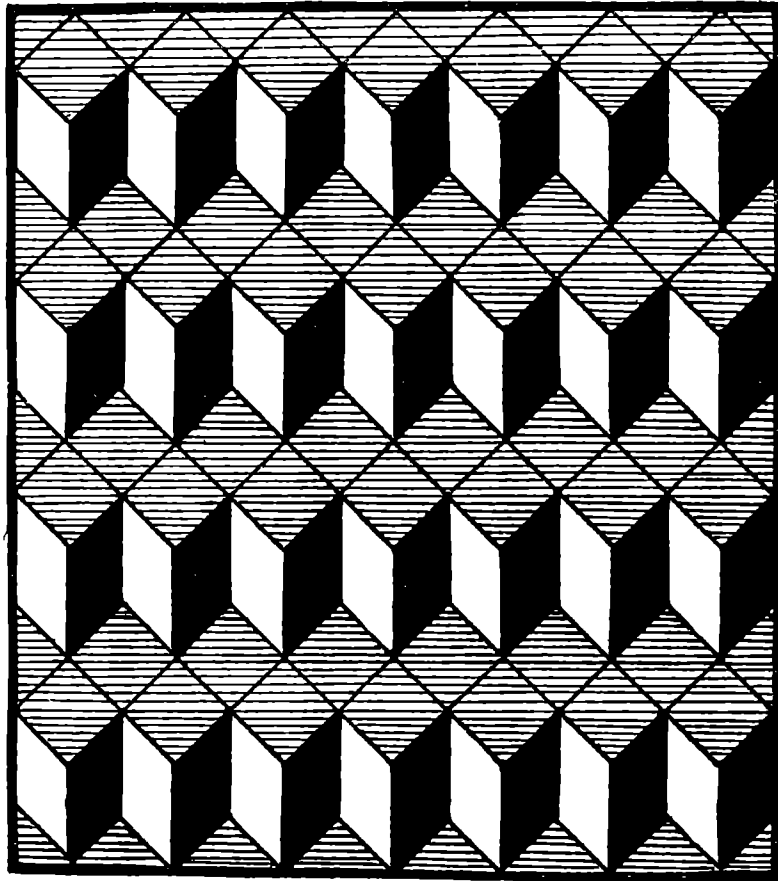
"Oh, hell! Think I'm a fool? Say, do

you have a good man in mathematical physics on the faculty? Take me to him."

"Psychology, I should think," he said, studying me. "Or psychiatry. But I'm a law student and know nothing of either."

"Then make it mathematical physics, and I'll be grateful to you."

SO I was conducted to the mathematical physicist. The student led me into the very building which corresponded to Morton Hall, and into an office the position of which quite corresponded to that of Woleshensky's office. However, the office was older and dustier; it had a Victorian look about it, and was not as modern as Woleshensky's room. Professor Vibens was a rather small, bald-headed man, with a keen looking face. As



*Make up your mind that you are looking down upon the upper surfaces of the cubes, and indeed they seem below you. Now change your mind, and imagine that you are looking up. Behold, you see their lower surfaces*

I thanked the law-student and started on my story, he looked rather bored, as though wondering why I had picked on him with my tale of wonder. Before I had gotten very far he straightened up a little; and further along he pricked up another notch; and before many minutes he was tense in his chair as he listened to me. When I finished, his comment was terse, like that of a man accustomed to thinking accurately and to the point.

"Obviously you come into this world from another set of coordinates. As we are on the  $z$  dimension, you must have come to us from the  $t$  dimension—"

He disregarded my attempts to protest at this point.

"Your man Woleshensky has evidently developed the conception of relativity further than we have, although Monpeters' theory comes close enough to it. Since I have no idea how to get you back, you must be my guest. I shall enjoy hearing all about your world."

"That is very kind of you," I said gratefully. "I'm accepting because I can't see what else to do. At least until the time when I can find me a place in your world or get back to my own. Fortunately," I added as an afterthought, "no one will miss me there, unless it be a few classes of students who will welcome the little vacation that must elapse before my successor is found."

Breathlessly eager to find out what sort of a world I had gotten into, I walked with him to his home. And I may state at the outset that if I had found everything upside down and outlandishly bizarre, I should have been far less amazed and astonished than I was. For, from the walk that first evening from Professor Vibens' office along several blocks of residence street to his solid and respectable home, through all of my goings about the town and country during the years that I remained in the  $t$ -dimensional world, I found people and things thoroughly ordinary and familiar. They looked and acted as we do, and their homes and goods looked like ours. I cannot possibly imagine a world and a people that could be more similar to ours without actually being the same. It was months before I got over the idea that I had merely wandered into an unfamiliar part of my own city. Only the actual experience of wide travel and much sight-seeing, and the knowledge that there was no such extensive English-speaking country on the world that I knew, convinced me that I must be on some other world, doubtless in the  $t$  dimension.

"A gentleman who has found his way here from another universe," the professor introduced me to a strapping young fellow who was mowing the lawn.

The professor's son was named John! Could anything be more commonplace?

"I'll have to take you around and show you things tomorrow," John said cordially, accepting the account of my arrival without surprise.

A red-headed servant-girl, roast-pork and rhubarb-sauce for dinner, and checkers afterwards, a hot bath at bedtime, the ringing of a telephone somewhere else in the house—is it any wonder that it was months before I would believe that I had actually come into a different universe? What slight differences there were in the people and the world, merely served to emphasize the similarity. For instance, I think they were just a little more hospitable and "old-fashioned" than we are. Making due allowances for the fact that I was a rather remarkable phenomenon, I think I was welcomed more heartily in this home and in others later, people spared me more of their time and interest from their daily business, than would have happened under similar

circumstances in a correspondingly busy city in America.

Again, John found a lot of time to take me about the city and show me banks and stores and offices. He drove a little squat car with tall wheels, run by a spluttering gasoline motor. (The car was not as perfect as our modern cars, and horses were quite numerous in the streets. Yet John was a busy business man, the district superintendent of a life-insurance agency). Think of it! Life insurance in Einstein's  $t$  dimension.

"You're young to be holding such an important position," I suggested.

"Got started early," John replied. "Dad is disappointed because I didn't see fit to waste time in college. Disgrace to the family, I am."

What in particular shall I say about the city? It might have been any one of a couple of hundred American cities. Only it wasn't. The electric street cars, except for their bright green color, were perfect; they might have been brought over bodily from Oshkosh or Tulsa. The ten-cent stores with gold letters on their signs; drug-stores with soft drinks; a mad, scrambling stock-exchange; the blaring sign of an advertising dentist; brilliant entrances to motion-picture theaters, were all there. The beauty-shops did wonders to the women's heads, excelling our own by a good deal, if I am any judge; and at that time I had nothing more important on my mind than to speculate on that question. Newsboys bawled the *Evening Sun*, and the *Morning Gale*, in whose curious, flat type I could read accounts of legislative doings, murders, and divorces, quite as fluently as I could in my own *Tribune* at home. Strangeness and unfamiliarity had bothered me a good deal on a trip to Quebec a couple of years ago; but they were not noticeable here in the  $t$  dimension.

For three or four weeks the novelty of going around, looking at things, meeting people, visiting concerts, theaters, and department stores, was sufficient to absorb my interest. Professor Vibens' hospitality was so sincerely extended that I did not hesitate to accept, though I assured him that I would repay it as soon as I got established in this world. In a few days I was thoroughly convinced that there was no way back home. Here I must stay, at least until I learned as much as Woleshensky knew about crossing dimensions. Professor Vibens eventually secured for me a position at the University.

It was shortly after I had accepted the position as instructor in experimental physics and had begun to get broken into my work, that I noticed a strange commotion among the people of the city. I have always been a studious recluse, observing people as phenomena rather than participating in their activities. So for some time I noted only in a subconscious way the excited gathering in groups, the gesticulations and blazing eyes, the wild sale of extra editions of papers, the general air of disturbance. I even failed to take an active interest in these things when I made a railroad journey of three hundred miles and spent a week in another city; so thoroughly at home did I feel in this world that when the advisability arose of my studying laboratory methods in another University, I made the trip alone. So absorbed was I in my laboratory problems that I only noted with half an eye the commotion and excitement everywhere, and merely recollected it later. One night it suddenly popped into my head that the country was aroused over something.

THAT night I was with the Vibens' family in their living room. John tuned in the radio. I wasn't listening to the thing very much; I had troubles of my own.  $F=g \frac{m_1 m_2}{r^2}$  was familiar enough to me. It meant the same and held as rigidly here as in my old world. But, what was the name of the bird who had formulated that law? Back home it was Newton. Tomorrow in class I would have to be thoroughly familiar with his name. Pasvieux, that's what it was. What messy surnames. It struck me that it was lucky that they expressed the laws of physics in the same form, and even in the same algebraical letters, or I might have had a time getting them confused—when all of a sudden the radio blatanly bawled:

"THE GOSTAK DISTIMS THE DOSHES!"

John jumped to his feet.

"Damn right!" he shouted, slamming the table with his fist.

Both his father and mother annihilated him with withering glances, and he slunk from the room. I gazed stupefied. My stupefaction continued while the Professor shut off the radio, and both of them excused themselves from my presence. Then suddenly I was alert.

I grabbed a bunch of newspapers, having seen none for several days. Great sprawling headlines covered the front pages:

"THE GOSTAK DISTIMS THE DOSHES."

For a moment I stopped, trying to recollect where I had heard those words before. They recalled something to me. Ah, yes! That very afternoon, there had been a commotion beneath my window on the University campus. I had been busy checking over an experiment so that I might be sure of its success at tomorrow's class, and looked out rather absently to see what was going on. A group of young men from a dismissed class was passing, and had stopped for a moment.

"I say, the gostak distims the doshes!" said a fine-looking young fellow. His face was pale and strained looking.

The young man facing him sneered derisively:

"Aw your grandmother! Don't be a feeble——"

He never finished. The first fellow's fist caught him in the cheek. Several books dropped to the ground. In a moment the two had clinched and were rolling on the ground, fists flying up and down, smears of blood appearing here and there. The others surrounded them, and for a moment appeared to enjoy the spectacle; but suddenly recollected that it looked rather disgraceful on a University campus, and after a lively tussle separated the combatants. Twenty of them, pulling in two directions, tugged them apart.

The first boy strained in the grasp of his captors; his white face was flecked with blood, and he panted for breath.

"Insult!" he shouted, giving another mighty heave to get free. He looked contemptuously around. "The whole bunch of you ought to learn to stand up for your honor. The gostak distims the doshes!"

That was the astonishing incident that these words called to my mind. I turned back to my newspapers.

"Slogan Sweeps the Country," proclaimed the sub-heads. "Ringing Expression of National Spirit! Enthusiasm Spreads Like Wildfire! The new patriotic slogan is gaining ground rapidly," the leading article went on. "The fact that it has covered the country

almost instantaneously seems to indicate that it fills a deep and long-felt want in the hearts of the people. It was first uttered during a speech in Walkington by that majestic figure in modern statesmanship, Senator Harob. The beautiful sentiment, the wonderful emotion of this sublime thought, are epoch-making. It is a great conception, doing credit to a great man, and worthy of being the guiding light of a great people——"

That was the gist of everything I could find in the papers. I fell asleep, still puzzled about the thing. I was puzzled, because—as I see now and didn't see then—I was trained in the analytical methods of physical science, and knew little or nothing about the ways and emotions of the masses of the people.

In the morning the senseless expression popped into my head as soon as I awoke. I determined to waylay the first member of the Vibens family who showed up, and demand the meaning of the thing. It happened to be John.

"John, what's a gostak?"

John's face lighted up with pleasure. He threw out his chest and a look of pride replaced the pleasure. His eyes blazed, and with a consuming enthusiasm, he shook hands with me, as the deacons shake hands with a new convert—a sort of glad welcome.

"The gostak!" he exclaimed. "Hurray for the gostak!"

"But what is a gostak?"

"Not a gostak! *The* gostak. The gostak is—the distimmer of the doshes—see! He distims 'em, see?"

"Yes, yes. But what is distimming? How do you distim?"

"No, no! Only the gostak can distim. The gostak distims the doshes. See?"

"Ah, I see!" I exclaimed. Indeed, I pride myself on my quick wit. "What are doshes? Why, they are the stuff distimmed by the gostak. Very simple!"

"Good for you!" John slapped my back in huge enthusiasm. "I think it wonderful for you to understand us so well, after being here only a short time. You are very patriotic."

I gritted my teeth tightly, to keep myself from speaking.

"Professor Vibens, what's a gostak?" I asked in the solitude of his office an hour later.

He looked pained.

He leaned back in his chair and looked me over elaborately, and waited some time before answering.

"Hush! he finally whispered. "A scientific man may think what he pleases; but if he says too much, people in general may misjudge him. As a matter of fact, a good many scientific men are taking this so-called patriotism seriously. But a mathematician cannot use words loosely; it has become second nature with him to inquire closely into the meaning of every term he uses."

"Well, doesn't that jargon mean anything at all?" I was beginning to be puzzled in earnest.

"To me, it does not. But it seems to mean a great deal to the public in general. It's making people do things, is it not?"

I stood a while in stupefied silence. That an entire great nation should become fired up over a meaningless piece of nonsense! Yet, the astonishing thing was that I had to admit that there was plenty of precedent for it in the history of my own  $s$ -dimensional



world. A nation exterminating itself in civil wars to decide which of two profligate royal families should be privileged to waste the people's substance from the throne; a hundred thousand crusaders marching to death for an idea that to me means nothing; a meaningless, untrue advertising slogan that sells millions of dollars' worth of cigarettes to a nation to the latter's own detriment—haven't we seen it over and over again?

"There's a public lecture on this stuff tonight at the First Church of The Salvation," Professor Vibens suggested.

"I'll be there," I said. "I want to look into the thing."

That afternoon there was another flurry of "extras" over the street; people gathered in knots and gesticulated with open newspapers.

"War! Let 'em have it!" I heard men shout.

"Is our national honor a rag to be muddied and trampled on?" the editorials asked.

AS far as I could gather from reading the papers, there was a group of nations across an ocean that was not taking the gostak seriously. A ship whose pennant bore the slogan had been refused entrance to an Engtalian harbor because it flew no national ensign. The Executive had dispatched a diplomatic note. An evangelist who had attempted to preach the gospel of the distimmed doshes at a public gathering in Itland had been ridden on a rail and otherwise abused. The Executive was dispatching a diplomatic note.

Public indignation waxed high. Derogatory remarks about "wops" were flung about. Shouts of "Holy war!" were heard. I could feel the tension in the atmosphere as I took my seat in the crowded church in the evening. I had been assured that the message of the gostak and the doshes would be thoroughly expounded so that even the most simple-minded and uneducated people could understand it fully. Although I had my hands full at the University, I was so puzzled and amazed at the course that events were taking that I determined to give the evening to finding out what the "slogan" meant.

There was a good deal of singing before the lecture began. Mimeographed copies of the words were passed about, but I neglected to preserve them, and do not remember them. I know there was one solemn hymn that reverberated harmoniously through the great church, a chanting repetition of "The Gostak Distims the Doshes." There was another stirring martial air, that began: "Oh the Gostak! Oh the Gostak!"—and ended with a swift cadence on the Gostak Distims the Doshes!" The speaker had a rich, eloquent voice and a commanding figure. He stepped out and bowed solemnly.

"The gostak distims the doshes," he pronounced impressively. "Is it not comforting to know that there is a gostak; do we not glow with pride because the doshes are distimmed? In the entire universe there is no more profoundly significant fact: the gostak distims the doshes. Could anything be more complete, yet more tersely emphatic. The gostak distims the doshes!" Applause. "This thrilling truth affects our innermost lives. What would we do if the gostak did not distim the doshes? Without the gostak, without doshes, what would we do? What would we think? How would we feel?" Applause again.

At first I thought this was some kind of an introduction. I was inexperienced in listening to popular

speeches, lectures, and sermons. I had spent most of my life in the study of physics and its accessory sciences. I could not help trying to figure out the meaning of whatever I heard. When I found none I began to get impatient. I waited some more, thinking that soon he would begin on the real explanation. After thirty minutes of the same sort of stuff as I have just quoted, I gave up trying to listen. I just sat and hoped he would soon be through. The people applauded and grew more excited. After an hour, I stirred restlessly; I slouched down in my seat and sat up by turns. After two hours I grew desperate; I got up and walked out. Most of the people were too excited to notice me. Only a few of them cast hostile glances at my retreat.

The next day the mad nightmare began for me. First there was a snowstorm of "extras" over the city, announcing the sinking of a merchantman by an Engtalian cruiser. A dispute had arisen between the officers of the merchantman and the port officials, because the latter had jeered disrespectfully at the gostak. The merchantman picked up and started out without having fulfilled all the Customs requirements. A cruiser followed it and ordered it to return. The captain of the merchantman told them that the gostak distims the doshes, whereupon the cruiser fired twice and sank the merchantman. In the afternoon came the "extras" announcing the Executive's declaration of war.

Recruiting offices opened; the University was depleted of its young men; uniformed troops marched through the city, and railway trains full of them went in and out. Campaigns for raising war loans; homeguards, women's auxiliaries, ladies' aid societies making bandages, young women enlisting as ambulance drivers—it was indeed war; all of it to the constantly repeated slogan: "The gostak distims the doshes."

I could hardly believe that it was really true. There seemed to be no adequate cause for a war. The huge and powerful nation had dreamed a silly slogan and flung it in the world's face. A group of nations across the water had united into an alliance, claiming they had to defend themselves against having forced upon them a principle they did not desire. The whole thing at the bottom had no meaning. It did not seem possible that there would actually be a war; it seemed more like going through a lot of elaborate play-acting.

Only when the news came of a vast naval battle of doubtful issue, in which ships had been sunk and thousands of lives lost, did it come to me that they meant business. Black bands of mourning appeared on sleeves and in windows. One of the allied countries was invaded and a front-line set up. Reports of a division wiped out by an airplane attack; of forty thousand dead in a five-day battle; of more men and more money needed, began to make things look real. Haggard men with bandaged heads and arms in slings appeared on the streets; a church and an auditorium were converted into hospitals; and trainloads of wounded were brought in. To convince myself that this thing was so, I visited these wards, and saw with my own eyes the rows of cots, the surgeons working on ghastly wounds, the men with a leg missing or with a hideously disfigured face.

Food became restricted; there was no white bread, and sugar was rationed. Clothing was of poor quality; coal and oil were obtainable only on government permit. Businesses were shut down. John was gone; his parents received news that he was missing in action.



Real it was; there could be no more doubt of it. The thing that made it seem most real was the picture of a mangled, hopeless wreck of humanity sent back from the guns, a living protest against the horror of war. Suddenly someone would say: "The gostak distims the doshes!" and the poor wounded fragment would straighten up and put out his chest with pride, and an unquenchable fire would blaze in his eyes. He did not regret having given his all for that. How could I understand it?

And real it was when the draft was announced. More men were needed; volunteers were insufficient. Along with the rest, I complied with the order to register, doing so in a mechanical fashion, thinking little of it. Suddenly the coldest realization of the reality of it was flung at me, when I was informed that my name had been drawn and that I would have to go!

All this time I had looked upon this mess as something outside of me; something belonging to a different world, of which I was not a part. Now here was a card summoning me to training camp. With all this death and mangled humanity in the background, I wasn't even interested in this world. I didn't belong here. To be called upon to undergo all the horrors of military life, the risk of a horrible death, for no reason at all! For a silly jumble of meaningless sounds.

I spent a sleepless night in maddened shock from the thing. In the morning a wild and haggard caricature of myself looked back at me from the mirror. But I had revolted. I intended to refuse service. If the words conscientious objector ever meant anything, I certainly was one. Even if they shot me for treason at once, that would be a fate less hard to bear than going out and giving my strength and my life for—for nothing at all.

My apprehensions were quite correct. With my usual success at self-control over a seething interior, I coolly walked to the draft office and informed them that I did not believe in their cause and could not see my way to fight for it. Evidently they had suspected something of the sort already, for they had the irons on my wrists before I had hardly done with my speech.

"Period of emergency," said a beefy tyrant at the desk; "no time for stringing out a civil trial. Court-martial!"

He said it at me vindictively, and the guards jostled me roughly down the corridor; even they resented my attitude. The court-martial was already waiting for me. From the time I walked out of the lecture at the church I had been under secret surveillance; and they knew my attitude thoroughly. That is the first thing the president of the court informed me.

My trial was short. I was informed that I had no valid reason for objecting. Objectors because of religion, because of nationality, and similar reasons, were readily understood; a jail sentence to the end of the war was their usual fate. But I admitted that I had no intrinsic objection to fighting; I merely jeered at their holy cause. That was treason unpardonable.

"Sentenced to be shot at sunrise!" the president of the court announced.

The world spun around with me. But only for a second. My self-control came to my aid. With the curious detachment that comes to us in such emergencies, I noted that the court-martial was being held in Professor Vibens' office; that dingy little Victorian room,

where I had first told my story of traveling by relativity and had first realized that I had come to the  $t$ -dimensional world. Apparently it was also to be the last room I was to see in this same world. I had no false hopes that the execution would help me back to my own world, as such things sometimes do in stories. When life is gone, it is gone, whether in one dimension or another. I would be just as dead in the  $z$  dimension as in the  $t$  dimension.

"Now, Einstein, or never!" I thought. "Come to my aid, O Riemann! O Lobatchewsky! If anything will save me it will have to be a tensor or a geodesic."

I said it to myself rather ironically. Relativity had brought me here. Could it get me out of this?

Well! Why not?

If the form of a natural law, yea, if a natural object varies with the observer who expresses it, might not the truth and the meaning of the gostak slogan also be a matter of relativity? It was like making the moon ride the tree tops again. If I could be a better relativist, and put myself in these people's place, perhaps I could understand the gostak. Perhaps I would even be willing to fight for him or it.

The idea struck me suddenly. I must have straightened up and some bright change must have passed over my features, for the guards who led me looked at me curiously and took a firmer grip on me. We had just descended the steps of the building and had started down the walk.

Making the moon ride the tree tops! That was what I needed now. And that sounded as silly to me as the gostak. And the gostak did not seem so silly. I drew a deep breath and felt very much encouraged. The viewpoint of *relativity* was somehow coming back to me. Necessity manages much. I could understand how one might fight for the idea of a gostak distimming the doshes. I felt almost like telling these men. Relativity is a wonderful thing. They led me up the slope, between the rows of poplars.

Then it all suddenly popped into my head; how I had gotten here by changing my coordinates, insisting to myself that I was going *upwards*. Just like making the moon stop and making the trees ride, when you are out riding at night. Now I was going upwards. In my own world, in the  $z$  dimension, this same poplar was *down* the slope.

"It's downwards!" I insisted to myself. I shut my eyes, and imagined the building behind and *above* me. With my eyes shut, it did seem downwards. I walked for a long time before opening them. Then I opened them and looked around.

I was at the end of the avenue of poplars. I was surprised. The avenue seemed short. Somehow it had become shortened; I had not expected to reach the end so soon. And where were the guards in olive uniform? There were none.

I turned around and looked back. The slope extended on backwards above me. Indeed I had walked downwards. There were no guards, and the fresh, new building was on the hill behind me.

Woleshensky stood on the steps.

"Now what do you think of a  $t$  dimension," he called out to me.

Woleshensky!

And a *new* building, modern! Vibens' office was in  
(Continued on page 1185)

## The Gostak and the Doshes

By Miles J. Breuer, M. D.

(Continued from page 1149)

an old, Victorian building. What was there in common between Vibens and Woleshensky? I drew a deep breath. The comforting realization spread gratefully over me that I was back in my native dimension. The gostak and the war were somewhere else. Here were peace and Woleshensky.

I hastened to pour out the story to him.

"What does it all mean?" I asked when I was through. "Somehow—vaguely—it seems that it ought to mean something."

"Perhaps," he said in his kind, sage way, "we really exist in four dimensions. A part of us and our world that we cannot see and are not conscious of, projects on into another dimension; just like the front edges of the books in the bookcase, turned away from us. You know that the section of a conic cut by the  $y$  plane looks different than the section of the same conic by the  $z$  plane? Perhaps what you saw was our own world and our own selves, intersected by a different set of coordinates. *Relativity*, as I told you in the beginning."

THE END