THE FOURTH DIMENSION.

BY HYLAND CLAIR KIRK.

I.

OF course it is best to have characters in telling a story; though many are told as lacking apparently in this respect as would be the tale of a meteor or a pin-head. And in instances there may be an element of safety in such a course; for if a story were told about either of these objects, the work done illustratively and with a psychological turn, it might be said: "Ah, it is aimed at some lofty personage, as So-and-So," or "at some insignificant person, as So-and-So"; and the danger of aiming at any one has been often pointed out in criminal cases.

Accordingly let it be noted at the very outset of this narrative, that, although there have been a considerable number of profound thinkers who have presented their views to the public on the subject of the fourth dimension, the principal character herein described, Professor Purcellini, the meteoric inventor of the scenograph and other startling novelties, was none of these; a statement very easily substantiated by the fact that he had a contempt for writing on any subject which he thought might be elucidated in a practical way—an idea which he seems to have held of this very theme, usually regarded as so extremely baffling and recondite.

It was Purcellini in pursuit of this same subject, who won the wager on being able to make clear and comprehensible to others, five degrees of ideal representation—that is, five conceivable stages in mental imagery, each one more remote from the real object than the preceding, and yet so as to preserve the idea of the real thing. The object selected was a hunch-back member of the club, who consented to act; and the conditions were that it must be made clear how Tommy Jones could be conceived of by the six of seven members who happened to be present, five degrees remote from his actual personality and yet so as to be recognizable.

The first degree, as presented by Purcellini, was the thought of Tommy when absent; which would necessarily apply to the other stages. The second was a series of moving-photos representing Tommy walking about. The third consisted of the photos of the reflections in a mirror of Tommy in action. The fourth was made up of the moving-photos of a shadow of Tommy reflected in a mirror. As to the fifth, Purcellini said:

"Now, gentlemen, all you have to do to realize the fifth degree is, to dream about this moving shadow of Tommy and then recall your dream the next morning, and you have: first, your immediate concept of the dream-shadow; second, the dream-shadow of Tommy's photo reflected in the mirror; third, the photo of the shadow reflected in the mirror; fourth, the shadow reflected; and fifth, the shadow of Tommy.

Despite the contention that a shadow was not an adequate representation, it was decided that it would be in the case of Tommy Jones, and the wager was accordingly awarded to Purcellini.

Yes, it is best to have characters in a story that may be neither offensively realistic, nor yet so indefinite as to be mistaken for meteors or pin-heads; and that is why Hans Steinmann is also introduced to the reader. Hans was a sort of natural phenomenon to be sure, but resembling neither of these insensate objects. He was a blue-eyed blond of medium size, an honest-faced, compactly-built German mechanic, self-educated in the use of English, and with a vocabulary that would make a column of Esperanto look like the opening pages of a primer!

Hans was quite an ordinary workman before he met Purcellini, and poor—well, the proverbial rodent of cloistered proclivities might have furnished him a meal on more than one occasion. He owed the making of what fortune he possessed—involved wholly in his Florida workshop and ranch—to that lucky meeting; and no doubt Purcellini owed considerable of his much larger fortune to the same circumstance, as their peculiarities were such that one could never have accomplished very much without the other. Hans, though knowing little of letters and still less of formulated science and philosophy, was patient, practical, deft in handling tools and could readily see how to construct any conceivable mechanism; while Purcellini in manner was apt to be irascible, was in fact learned and scientific, though disclaiming all interest in the metaphysical. And this will appear to the reader as it did to some of his friends as a curious anomaly. While he would discourse learnedly on the views of philosophers and upon abstruse philosophical questions, he always

gave the problems involved a substantial interpretation and insisted upon calling himself a materialist. Another deceptive element in his make-up was, that though he appeared at times so gruff as to be repellent, this was largely due to preoccupation and his absorption in processes of working out mechanical problems of one sort or another. For beneath this grumpy exterior there beat the warmest sort of a heart, most sympathetic perhaps for those who could throw light on his own pursuits; yet some of his friends believed such preference if it existed to be due more to another influence than his own inclinations which were broadly and deeply human, and little else.

Purcellini was large, dark, full-bearded, with the blackest of eyes and hair; and it must be mentioned here that his consort, Madam Purcellini, was his feminine counterpart to a considerable extent in disposition and appearance, except that she was tall and possessed of more than ordinary grace of form and feature. She was really the other influence or extra force in his life. Though not as learned as her erudite partner, Madam Purcellini possessed an inordinate ambition which under favoring circumstances might have given her a name with the queens of the earth. As it was, the only escape for her peculiar energy was through keeping her husband up to his work.

"Women," she had been known to remark, "accomplish much in this world for which they get no credit; yet merit is more than reputation or reward."

Thus it came about that only two persons could manage Purcellini: his wife who dominated him, and Hans whom he dominated—the former in general and the latter in all questions involving the details of mechanical construction. Thus Purcellini came to be a model of exactness, somewhat in opposition to his natural bent, because of these personal influences, and his own tendency to reduce scientific truth to a working formula. In walking, which he often indulged in, he always took a most direct course because it was established in his own mind that there is the greatest conservation of bodily energy by following the line of least resistance, and that the shortest distance between two points is neither crooked nor curved. Hans in his gait followed no rule, and the professor in his walk and movements was always a wonder to him. In fact up to about this time Hans actually entertained such a feeling of respect and even awe for Professor Purcellini's abilities, that he never would admit to an outsider that that gentleman was wrong or had ever been wrong in anything!

For about six months Hans had been at work under the written instructions of the Professor upon a new device, the most startling and wonderful—according to the Professor's own account—of anything he had ever conceived. The original instructions received by Hans were as follows:

"*First*

"You will construct an apparatus to be attached to the car of a dirigible balloon; an improved camera obscura, of lenses and mirrors, which will focus the surface of the earth below, so that an observer in the car may be able to see the whole surface reduced in the picture.

"*Second*

"This picture is to be made susceptible of being enlarged or reduced at the will of the operator, and also of being run when photographed in kinetoscope films, suitable levers for enlarging and reducing being attached for the observer's convenience.

"*Third*

"Space is to be left beneath the eye-piece for the attachment of a circular transparency, one foot in diameter, of peculiar properties, now being specially manufactured in Germany. A surprising feature of this transparent plate is, that when elevated even a slight distance above the earth, it seems to extend the visible horizon every way; and the power of penetration it affords the vision is no less wonderful."

These instructions were quite separate from the letter which, after referring to such minor matters as salary and expenses, concluded as follows:

"I believe, my dear Hans, that this new 'Space-Annihilator & Time-Accelerator,' will prove the most wonderful invention of the age! It was the conclusion of that eminent philosopher, Immanuel Kant, that space and time are not actualities, but merely structural elements of the human mind. Accordingly as the mind depends entirely on sensation, certain higher philosophers, basing their view on occult phenomena, believe that *a fourth dimension* exists, not included in length, breadth, or thickness. By taking advantage of this fact, my invention will enable one to increase or decrease space or time at will by simply adjusting the mechanism. It is not every one who can grasp the idea, and you may not readily take it in yourself. But as soon as you are ready with the apparatus which I

have described, I will be there with the magic transparency to show you what a wonderful thing it is.

As ever yours,

P. PURCELLINI."

Up to this point—the receipt of this letter—as already noted, Hans, the obedient executor of his employer's designs, had never—except in the little details of construction and workmanship—questioned that employer's word or thought. Nor would he have done so now, little as he understood what Purcellini was aiming at, had it not been for Hetty Smith, another character who, although presenting her sweetest smile and prettiest bow to the reader for the first time, has really been in the game ever since she left Madam Purcellini's employ on the last visit of that remarkable lady to Florida, and since Hetty became a teacher of the youthful Crackers in that vicinity.

Yes, this tale without Hetty, a hazel-eyed, demure product of Vassar, Wellesley, or some other feminine intellect factory, would be not unlike Shakespeare's famous tragedy with Hamlet off his job. She was so undemonstrative and quiet naturally, that few if any would suspect the fact that she had a tremendous dynamo behind the pigeon-holes of her brain with all necessary machinery attached; so that when grappling with any subject the action kept right up, until the said theme was duly ground out, classified, labeled and put away. After which it was dangerous for any one to disagree with Hetty on that particular topic.

Hans was undoubtedly afraid of Hetty; he knew she knew his utter lack of knowledge. No other woman caused him such embarrassment as she did when he attempted to converse with her. Still Hetty encouraged him by often complimenting his skilful workmanship; and Hans sometimes ventured to confide in her, as he did in this instance, by showing her his instructions in Purcellini's letter.

Hetty took a whole week to ponder over that missive, during which time she consulted all the books she possessed or could find in the vicinity affording information as to the meaning of the fourth dimension. Not content with this she wrote to one of her old teachers about it who sent her several works on the subject, including Hinton's clever romances, Abbot's *Flatland,* Professor Manning's collection of prize essays on the subject, and Henri Bergson's *Time and Free Will.*

Several months passed before she reached a definite conclusion after receiving these books, and one quite remarkable dream she

attributed to their influence. At first she was puzzled by such questions as that of Professor Manning in the Introduction to his work: "Why may there not be a geometry with four mutually perpendicular lines, in which the position of a point is determined by measuring in four perpendicular directions?"

But after pondering over this, she asked herself: "Well, if Professor Manning conceives such perpendiculars, as straight lines are easy to draw, why does he not make a diagram of his concept?" And then the absurdity of the proposition becoming apparent to her, since it is impossible to have more than three perpendiculars meet at a common point, she decided that this is a question which has no proper place in geometry of any sort, not even in the non-Euclidean. As Professor Manning says: "The non-Euclidean geometries do not themselves assume that space is curved, nor do the non-Euclidean geometries of two and three dimensions make any assumption in regard to a fourth dimension."

She concluded that the fourth dimension, mathematically considered, is purely algebraic and not geometrical in any realizable sense; and of course algebraically, we may have as many dimensions as we choose to make symbols to represent them; yet they will be "dimensions" in name only.

The notion of geometries of n dimensions introduced into mathematical investigations by Caley, Grassmann, Riemann, Clifford, Newcomb, Stringham, Veronese and others, she decided to be purely speculative, and to be more appropriately termed algebraic; because geometrically such dimensions can neither be illustrated nor conceived. Equally inconceivable appeared to her the statement of another mathematician, that "to a reasonable mind unfamiliar with our universe, space of four dimensions would appear to be *a priori* quite as probable as space of three"; since no one can imagine "a reasonable mind unfamiliar with our universe," any more than he can a space of four dimensions.

Hetty became aroused to the fact that the term "fourth dimension" has been seized upon by various classes as a new form of incantation to explain phenomena, with the result simply of mystifying themselves as well as others. Thus, that one could cause writings of the dead to be reproduced on a slate as Professors Zoellner and Fechner thought the medium Slade to have done, she could not see as having any relation to a fourth dimension, as those philosophers supposed; especially as Slade was subsequently caught writing the messages on the slate with his toes!

Also such ideas as that "a sphere may be turned inside out in

space of four dimensions without tearing," "that an object may be passed out of a closed box or room without penetrating the walls, that a knot in a cord may be untied without moving the ends of the cord, and that the links of a chain may be separated unbroken"—claims made by the Fourth Dimensionists—she decided to be all nonsense so far as involving a fourth dimension; for if such things could or should occur, they would happen through the interpenetration of matter in a three-dimensional space, and a fourth dimension would have nothing to do with it.

Another thing, backing up to gain momentum, and conceiving that there may be beings in space of one dimension—beings of which we know nothing, and then of two dimensions—of which we also know nothing and can conceive nothing, and then passing over the beings in three-dimensional space which we do measurably understand, and assuming therefore that there is a fourth-dimensional space and beings in it—of which we neither know the space nor the beings, she regarded as wholly illogical; since, as Edward H. Cutler says, "these suppositions involve a fatal confusion of mathematical with physical conceptions," a one-dimension space being impossible except as a mathematical abstraction, and furnishing no basis of thought for a fourth dimension.

It was about at this point in her researches that Hetty's dream came in, in which she seemed at first to be awake and working with a microscope, when as a surprise it came to her that bacteria—some of them appearing as mere mathematical points—were creatures of one-dimensional space. This so astonished her that she became partly awakened, when she was suddenly seized with the apprehension that there might be beings of two-dimensional space in her vicinity. She was sleeping in an ancient mansion and in an ancient bed, and the previous day she had been reading of a glass bee-hive "with its floor and roof of horizontal glass plates brought so close together that there is barely room for the bees to move about between them,"—an illustration of a world of two dimensions with the bees as two-dimensional beings.

Yet a bee is not merely long and broad, most bees can demonstrate their thickness with stinging emphasis; and less emphatically though quite as disagreeably Hetty suddenly became aroused to the idea that there were two-dimensional beings with scarcely any thickness flitting or swiftly creeping about under the cover of her bed. In fact she even detected such beings and impressed upon them a two-dimensional flatness which they did not possess before!

Still, while thus forcibly reminded of the existence of creatures

closely approximating to two dimensions, the very next day she found something in Bergson's *Time and Free Will,* which seemed to shut out all four-dimensional creatures and settle that question by showing that the fourth dimension of space is not something imaginary but a phase of the existence we know and already recognize.

So much time had now elapsed since she began her investigations following Hans's receipt of Purcellini's letter, his work on the new device being nearly completed, that Hans had quite lost sight of the fact that Hetty had any interest in this subject, and one day casually handed her another letter from Purcellini in which occurred the following: "That there is a fourth dimension in space there is no doubt; since it accords with the fact that both time and space originate from the human mind! And hence the certainty that our invention will revolutionize the world!"

"Pursy's gone crazy!" said Hetty reflectively.

Hans ventured to remonstrate: "Do you it tink? I do not see how dot could efer be. De great Brofessor haf notings in his mind mit him like de crazinesses. You haf not already yet seen his dransparencies, a vonderful ting made in Germany."

"Now Hans," was the reply, "I'm from Missouri" (and perhaps she was, though she came from New York with the Purcellinis), "and nobody can prove to me that nonsense is sense! Why talk about time and space coming out of, that is starting, originating in our minds. Can't you see that we originate in time and space?"

"Yaw, O yes," said Hans in a little less assertive spirit.

"Can't you see that naturally we have a correct idea of the dimensions of space, because we develop from and are as it were permeated by space whether we have minds or not?—and some people haven't much!"

Hans merely grinned.

"Now, Hansy, I'm not personal. You have mind enough, only you haven't any confidence in yourself: You have been hoodooed by Pursy, who has himself been so hoodooed by his ambitious wife that he is getting to be as crazy as a loon!"

"Do you it really tink?" said Hans earnestly. "I haf somedings to said about dot, I vait dill I see his crazinesses pefore his eyes!"

"Now listen," said Hetty smiling. "Of course you are getting your pay for your work, and that is right enough. But suppose that we were at the center of the earth!"

Hans grinned again. "Vell, anyting to accommodates!"

"If you and I were at the center of the earth, would not every direction be toward the surface?"

"Yaw, O yes."

"But the Fourth Dimensionist says there is some other direction, not toward the surface, but toward some strange, mystical region—the land of the inconceivable—and that is why I say that poor Pursy, driven to it probably by the ambition of that terrible wife of his, his 'Goddess of the Occult' as he calls her, in an effort to make practical and attain the unattainable, has actually gone crazy!"

Hans unconvinced, was yet disposed to learn more of the facts as he inquired: "Iss de fourd dimensions somedings pefore de bread, lengths, and tickness?"

"Before or behind, just as you prefer. It is supposed to be another direction in space, not length, not breadth, not thickness."

"Vell, suppose ve haf a cube, or a globe, den de mofements of dat boddy mit itself, if it mofe altogedder, mighd pe a fourd dimensions—vas'nt it, Fräulein?"

"Yes, you are right; the figure or direction of such a movement might be called a fourth dimension, and that suggests something, Hansy, the real nature of the only thing in nature which is entitled to be called and may properly be called the fourth dimension."

"Vell, vat ist?"

"Suppose, that one cube or globe, you speak of, was the whole of space—filled all space; then moving it forward—pulling it out—its extension would be a fourth dimension, wouldn't it?"

"Yaw, I tink so; but how could de space be pulled oud?"

"Extended? Why, as we think of it, isn't it being extended—pulled out constantly, not unlike the idea of the fourth dimension a cube or a globe produces in moving forward. In other words, isn't time itself the fourth dimension of space?"

"Aha, dot may pe it," said Hans reflectively.

"That is its most appropriate application," continued Hetty, "a continuous memory of space relations, instead of another realm which the mystics, doping themselves with mere words, strive to connect with everything that's unseen, and unknown; as if it solved the mystery of existence."

"Ah ha!" said Hans, "Iss dot de Brofessor's idea he haf wit himself?"

"Yes and it is really too bad, he has such a brilliant intellect."

"Das ist drue," remarked Hans energetically. "But de Brofessor say de great Germans Kant, he hold dis mit himself too already."

"Kant, yes, that mighty thinker never thought of a fourth dimension, and would have spurned the idea as commonly conceived; yet he is to blame for it all; for if the dimensions of space proceed merely from the mind, one can have as many dimensions as a Turk has wives!"

Hans's eyes dilated, and his mouth opened in wonderment at her logic.

"Suppose," she went on, "Kant did hold that space and time are the outcome from our minds instead of our being mere incidents in space and time—so that length, breadth and thickness are purely ideal—suppose he did entertain such an inconsistent view, do we have to believe it?"

Hans grinned in reply.

"Besides your great German philosopher was only theorizing. The danger lies in trying to make such a thing practical. Hansy, never indulge in a doctrine that requires you to give up your life to test its correctness."

"No, I vill not!"

"And that is what this is likely to result in, don't you see? It means mystifying, fooling oneself about an inner, unseen, wholly imaginary state, which the doped ones are immediately desirous of getting into, even at the expense of their lives—do you understand?"

"I think so, yaw, O yes, but—"

"And don't you see that Pursy is way off in his calculations?"

"Vell, I vait till he come mit his dransparencies from Germany!"

II.

Quite in accord with the press reports, it was a beautiful spring morning, and seated in a comfortable chair on the lawn of his Florida estate, Professor Pedro Purcellini, the wizard inventor of the scenograph and other startling panoramic devices, was contemplating with some degree of complacency the practical outcome of his most recent thought.

After years of earnest study and research he had struck upon the startling concept, that if he could arrange a mechanism so as fully and completely to impress the senses and thus affect the whole mind with the idea that space was to a large extent annihilated, it would in that degree actually be annihilated; and, if at the same time a spur could be applied to the mind's action, time would be accelerated accordingly, and in exact degree corresponding to the gradations given the accelerative force.

To diverge slightly from the somewhat hastily prepared press

notices, there was a peculiar anxiety in the Professor's expression which could not be attributed entirely to his ruminations over the future prospects of this new child of his thought. To tell the whole truth, his mind oscillated between two goals, ever and anon extending out and taking in a mechanism more difficult to comprehend even than his latest invention, a mechanism named Angelina, with a feminine face not devoid of beauty, and yet dominated when in repose with force and decision to the point of harshness. That face, the face of his wife, seemed to mark a final step, to which his wonderful invention was a mere leader.

Yes, as soon as he should prove the correctness of view in the work of this latest device, nothing should be permitted to stand in the way of his publishing to the world how much he owed to her—and that was the acme of his thought and hope.

For months previously he had worked late and early arranging his plans, while his apparatus was being perfected. Everything had been put in order the night before, and now the mechanism of his wonderful "Space-Annihilator & Time-Accelerator" was complete. His assistants had brought it forth, and it was being adjusted in the car of the dirigible which, at an altitude anywhere from three hundred to five thousand feet, at any point which might be selected above the earth, would afford the necessary scope and range for its successful operation.

As he gazed upon it the gratified expression which gradually crept over the Professor's face indicated the satisfaction he was beginning to experience within.

"It must be so," he reflected. "The mighty Kant, before whose genius not only German philosophy but the whole world bends the knee, must be right. Time and space, as the fundamental forms of perception under which we become conscious of the outside world and of ourselves, originate from within. We impose those forms upon all that we see and hear, taste and feel, and being fully conscious of their purely formal character, there is nothing in the way of success!"

He felt especially exultant that everything was now in readiness to make the demonstration in such a clear and forcible manner as not merely to enable the truth to be plainly seen and understood, but as he believed to sweep away all doubts from the minds of the sceptical; and what a revolution in the world it would make!

The dirigible was oscillating slightly in the breeze as the Professor stepped into the car. His assistant Hans Steinmann, mechanical engineer and aeronaut, shut off the flow of gas; the men below

disengaged the tackle holding car and float to the earth, and the "Triumph" rose like a bird.

It required but a few moments as it appeared to gain the necessary altitude, when Purcellini taking the magic transparency from its case placed it in position beneath the eye-piece and touched the button controlling the space lever. Instantly there occurred an almost indefinable action, as a rapid movement toward a center affecting every object and point of view below—and lo! one-half of the earth's entire surface—that of the hemisphere toward him—lay open to his vision. Not merely the land and water, forests and mountains, cities and plantations toward which his attraction was directed, but the dwellings and their inmates, down to the smallest child, were visible when details were closely scrutinized. He had only to direct his vision to any point desired and persist in his search when the minutest object came into view.

Strangely elated he set the time-lever and moved it one notch from normal, when the grove of verdant-leaved maples in one of our northern states on which his eye chanced to rest, seemed to lose their verdancy, yet curiously enough the leaves did not fall but changed into buds and then shrank away into bare branches, while the earth beneath seemed covered with frost and snow, and near-by ponds glistened with ice.

Ah, he had turned the lever the wrong way!

It required but a moment to rectify this by shifting the button and pushing the lever up two notches, when presto! the buds on those same maples reappeared, ice and snow vanished, the groves were enveloped again in green to speedily change into the yellow and red of autumn, and soon the trees were bare as winter could make them, quite stripped of their foliage again!

What an astounding thing!

He turned his attention to a vast herd of cattle on the western plains and could scarce believe his eyes; for the calves grew into steers and the steers into oxen and the oxen were hustled into trains for the eastern markets with the celerity of a passing procession.

To get a still more pronounced effect he pushed the lever up another notch and with astonished gaze watched the shifting forms and scenes below. The rapidity of changing skies, sunshine and storm appearing to chase each other like mythological Titans, much more rapidly of course than alterations in the landscape—than the lessening of forests, the development of railroads and growth of towns and cities—yet all were equally bewildering to the observer. And now came the climax to his work, he would view the effects

upon human beings; and quite naturally turned his attention to the great city in which he had left his Angelina, the hope of his fondest thought.

With kaleidoscopic rapidity he saw babes develop into boys and girls, and they into the more symmetrical shapes of young manhood and womanhood—a general survey appearing much like the bubbling and flashing of a chemical mixture. And the inmates of his own household—his Angelina. Ah, was that she? Her stately, Venus-like form was shriveling; her raven tresses were growing white, crow's-feet were appearing about the eyes; the imperious beauty of that face which had held him so long in its thrall, became a fixed grimace—and then, ah God, a grinning skull!

How much he actually saw and how much was due to the anticipation of his glowing, fevered intellect, may be imagined.

Purcellini turned aside his gaze. It rested upon a bordering mirror of the transparency, when he emitted a shriek of horror! Was that withered, tremulous face reflected there his own?

"Hans, Hans!" he yelled.

"Vell, vat ist?"

"Look, look! See if you can see Angelina!"

Hans gazed calmly through the transparency upon the scenes below.

"Yaw, I see von girl. But I tink it pe not Anglina, it pe Hetty Smitzs!"

"Pshaw, Hans, you are not enlightened. You do not see beyond your immediate vicinity, do not realize the vast importance of that hidden phase of being, actual and permanent, on which this shifting state—this outward, visible phenomenon, rests. Ah—"

A surprising change was taking place in the appearance of Purcellini himself; his face flushed and eyes dilated, as if he were suddenly subject to a spectral challenge.

"I cannot bear the suspense!" he yelled in his loudest tones. "I must get into it—the fourth dimension!" And before Hans could interfere to prevent, he had leaped to his destruction out of the car!

* * *

It was three weeks later, and Hans had returned from the funeral of his benefactor and also his benefactor's wife; for the death of the latter occurred, as the deliberate act of her own hand in the effort to join her consort in that mystic realm, almost simultaneously with the reception of the telegram announcing his tragic leap.

"Hetty," Hans was saying, "I tink vat de fourd dimensions mean, I know mineself already!"

"You certainly ought to by this time, Hensy," said Hetty, "after all these terrible experiences. Now tell me what it means."

"Vel, you said all de space is all de while pulled oud, vich is de time?"

"Yes."

"Von is vat de Brofessor call de complemend of de odder?"

"Yes."

"Vat a man tink aboud—too much it may pe—is de complemend of hiss thoughd, hiss fourd dimensions?"

"Yes."

"Vel," said Hans very impressively and with eyes fixed on the young woman: "Angelina, she tink too much aboud de Brofessor and him to get a name great mit hisself, vich vas her fourd dimensions. De Brofessor tink too much of Angelina and to vork oud all she vants him to find oud mit hisself, vich vas his fourd dimensions. But ven I looks in de dransparencies, ven de poor Brofessor call—vat do I saw? Not vat he see as de fourd dimensions. All I can saw is you—you iss my fourd dimensions!"

"I always did admire your practical judgment," said Hetty as she took his hand.