A New Era of Thought

By Charles H. Hinton

1888

[This selection contains excerpts of *A New Era of Thought* (1888) including material from the Introductory Note and Chapters 7, 9, 10, and 11. Copy-text: pp 106-119, *Speculations on the Fourth Dimension,* Selected Writings of Charles H. Hinton, Copyright 1980 by Dover Publications, Inc., ISBN 0-486-23916-0, LC 79-54399.]

Introductory Note

AT the completion of a work, or at the completion of the first part of a work, the feelings are necessarily very different from those with which the work was begun; and the meaning and value of the work itself bear a very different appearance. It will therefore be the simplest and shortest plan, if I tell the reader briefly what the work is to which these pages are a guide, and what I consider to be its value when done.

The task was to obtain a sense of the properties of higher space, or space of four dimensions, in the same way as that by which we reach a sense of our ordinary three-dimensional space. I now prefer to call the task that of obtaining a familiarity with higher matter, which shall be as intuitive to the mind as that of ordinary matter has become. The expression "higher matter" is preferable to "higher space," because it is a somewhat hasty proceeding to split this concrete matter, which we touch and feel, into the abstractions of extension and impenetrability. It seems to me that I cannot think of space without matter, and therefore, as no necessity compels me to such a course, I do not split up the concrete object into subtleties, but I simply ask: "What is that which is to a cube or block or shape of any kind as the cube is to a square?"

In entering upon this inquiry we find the task is twofold. Firstly, there is the theoretical part, which is easy, viz. to set clearly before us the relative conditions which would obtain if there were a matter physically higher than this matter of ours, and to choose the best means of liberating our minds from the limitations imposed on it by the particular conditions under which we are placed. The second part of the task is somewhat laborious, and consists of a constant presentation to the senses of those appearances which portions of higher matter would present, and of a continual dwelling on them, until the higher matter becomes familiar.

The reader must undertake this task, if he accepts it at all, as an experiment. Those of us who have done it, are satisfied that there is that in the results of the experiment which make it well worthy of a trial.

And in a few words I may state the general bearings of this work, for every branch of work has its general bearings. It is an attempt, in the most elementary and simple domain, to pass from the lower to the higher. In pursuing it the mind passes from one kind of intuition to a higher one, and with that transition the horizon of thought is altered. It becomes clear that there is a physical existence transcending the ordinary physical existence; and one becomes inclined to think that the right direction to look is, not away from matter to spiritual existences but towards

the discovery of conceptions of higher matter, and thereby of those material existences whose definite relations to us are apprehended as spiritual intuitions. Thus, "material" would simply mean "grasped by the intellect, become known and familiar." Our apprehension of anything which is not expressed in terms of matter, is vague and indefinite. To realize and live with that which we vaguely discern, we need to apply the intuition of higher matter to the world around us. And this seems to me the great inducement to this study. Let us form our intuition of higher space, and then look out upon the world.

Secondly, in this progress from ordinary to higher matter, as a general type of progress from lower to higher, we make the following observations. Firstly, we become aware that there are certain limitations affecting our regard. Secondly, we discover by our reason what those limitations are, and then force ourselves to go through the experience which would be ours if the limitations did not affect us. Thirdly, we become aware of a capacity within us for transcending those limitations, and for living in the higher mode as we had lived in the previous one.

We may remark that this progress from the ordinary to the higher kind of matter demands an absolute attention to details. It is only in the retention of details that such progress becomes possible. And as, in this question of matter, an absolute and unconventional examination gives us the indication of a higher, so, doubtless, in other questions, if we but come to facts without presupposition, we begin to know that there is a higher and to discover indications of the way whereby we can approach. That way lies in the fullness of detail rather than in the generalization.

Biology has shown us that there is a universal order of forms or organisms, passing from lower to higher. Therein we find an indication that we ourselves take part in this progress. And in using the little cubes we can go through the process ourselves, and learn what it is in a little instance.

But of all the ways in which the confidence gained from this lesson can be applied the nearest to us lies in the suggestion it gives and more than the suggestion, if inclination to think be counted for anything, in the suggestion of that which is higher than ourselves. We, as individuals, are not the limit and end-all but there is a higher being than ours. What our relation to it is, we cannot tell, for that is unlike our relation to anything we know. But, perhaps all that happens to us is, could we but grasp it, our relation to it.

At any rate, the discovery of it is the great object beside which all else is as secondary as the routine of mere existence is to companionship. And the method of discovery is full knowledge of each other. Thereby is the higher being to be known. In as much as the least to us knows and is known by another, in so much does he know the higher. Thus, scientific prayer is when two or three meet together, and, in the belief of one higher than themselves, mutually comprehend that vision of the higher, which each one is, and, by absolute fullness of knowledge of the facts of each other's personality, strive to attain a knowledge of that which is to each of their personalities as a higher figure is to its solid sides.

Self Elements in Our Consciousness

It is often taken for granted that our consciousness of ourselves and of our own feelings has a sort of direct and absolute value.

It is supposed to afford a testimony which does not require to be sifted like our consciousness of external events. But in reality it needs far more criticism to be applied to it than any other mode of apprehension.

To a certain degree we can sift our experience of the external world, and divide it into two portions. We can determine the self elements and the realities. But with regard to our own nature and emotions, the discovery which makes a science possible has yet to be made.

There are certain indications, however, springing from our observation of our own bodies, which have a certain degree of interest.

It is found that the processes of thought and feeling are connected with the brain. If the brain is disturbed, thoughts, sights, and sounds come into the consciousness which have no objective cause in the external world. Hence we may conclusively say that the human being, whatever he is, is in contact with the brain, and through the brain with the body, and through the body with the external world.

It is the structures and movements in the brain which the human being perceives. It is by a structure in the brain that he apprehends nature not immediately. The most beautiful sights and sounds have no effect on a human being unless there is the faculty in the brain of taking them in and handing them on to the consciousness.

Hence, clearly, it is the movements and structure of the minute portions of matter forming the brain which the consciousness perceives. And it is only by models and representations made in the stuff of the brain that the mind knows external changes.

Now, our brains are well furnished with models and representations of the facts and events of the external world.

But a most important fact still requires its due weight to be laid upon it.

These models and representations are made on a very minute scale--the particles of brain matter which form images and representations are beyond the power of the microscope in their minuteness. Hence the consciousness primarily apprehends the movements of matter of a degree of smallness which is beyond the power of observation in any other way.

Hence we have a means of observing the movements of the minute portions of matter. Let us call those portions of the brain matter which are directly instrumental in making representations of the external world--let us call them brain molecules.

Now, these brain molecules are very minute portions of matter indeed; generally they are made to go through movements and form structures in such a way as to represent the movements and structures of the external world of masses around us.

But it does not follow that the structures and movements which they perform of their own nature are identical with the movements of the portions of matter which we see around us in the world of matter.

It may be that these brain molecules have the power of four-dimensional movement, and that they can go through four-dimensional movements and form four-dimensional structures.

If so, there is a practical way of learning the movements of the very small particles of matter--by observing, not what we can see, but what we can think.

For, suppose these small molecules of the brain were to build up structures and go through movements not in accordance with the rule of representing what goes on in the external world, but in accordance with their own activity, then they might go through four-dimensional movements and form four-dimensional structures.

And these movements and structures would be apprehended by the consciousness along with the other movements and structures, and would seem as real as the others but would have no correspondence in the external world.

They would be thoughts and imaginations, not observations of external facts.

Now, this field of investigation is one which requires to be worked at.

At present it is only those structures and movements of the brain molecules which correspond to the realities of our three-dimensional space which are in general worked at consistently. But in the practical part of this book it will be found that by proper stimulus the brain molecules will arrange themselves in structures representing a four-dimensional existence. It only requires a certain amount of care to build up mental models of higher space existences. In fact, it is probably part of the difficulty of forming three-dimensional brain models, that the brain molecules have to be limited in their own freedom of motion to the requirements of the limited space in which our practical daily life is carried on.

Note: For my own part I should say that all those confusions in remembering which come from an image taking the place of the original mental model--as, for instance, the difficulty in remembering which way to turn a screw, and the numerous cases of images in thought transference--may be due to a toppling over in the brain, four-dimensionalwise, of the structures formed--which structures would be absolutely safe from being turned into image structures if the brain molecules moved only three-dimensionalwise.

It is remarkable how in science "explaining" means the reference of the movements and tendencies to movement of the masses about us to the movements and tendencies to movement to the minute portions of matter.

Thus, the behavior of gaseous bodies--the pressure which they exert, the laws of their cooling and intermixture are explained by tracing the movements of the very minute particles of which they are composed.

Another View of the Aether

We have supposed in the case of a plane world that the surface on which the movements take place is inactive, except by its vibrations. It is simply a smooth support.

For the sake of simplicity let us call this smooth surface "the aether" in the case of a plane world.

The aether then we have imagined to be simply a smooth, thin sheet, not possessed of any definite structure, but excited by real disturbances of the matter on it into vibrations, which

carry the effect of these disturbances as light and heat to other portions of matter. Now, it is possible to take an entirely different view of the aether in the case of a plane world.

Let us imagine that, instead of the aether being a smooth sheet serving simply as a support, it is definitely marked and grooved.

Let us imagine these grooves and channels to be very minute, but to be definite and permanent.

Then, let us suppose that, instead of the matter which slides in the aether having attractions and repulsions of its own, that it is quite inert, and has only the properties of inertia.

That is to say, taking a disk or a plane world as a specimen, the whole disk is sliding on the aether in virtue of a certain momentum which it has, and certain portions of its matter fit into the grooves in the aether, and move along those grooves.

The size of the portions is determined by the size of the grooves. And let us call those portions of matter which occupy the breadth of a groove, atoms. Then it is evident that the disk sliding along over the aether, its atoms will move according to the arrangement of the grooves over which the disk slides. If the grooves at any one particular place come close together, there will be a condensation of matter at that place when the disk passes over it; and if the grooves separate, there will be a rarefaction of matter.

If we imagine five particles, each slipping along in its own groove, if the particles are arranged in the form of a regular pentagon, and the grooves are parallel, then these five particles, moving evenly on, will maintain their positions with regard to one another, and a body would exist like a pentagon, lasting as long as the grooves remained parallel.

But if, after some distance had been traversed by the disk, and these five particles were brought into a region where one of the grooves tended away from the others, the shape of the pentagon would be destroyed, it would become some irregular figure. And it is easy to see that if the grooves separated, and other grooves came in amongst them, along which other portions of matter were sliding, that the pentagon would disappear as an isolated body, that its constituent matter would be separated, and that its particles would enter into other shapes as constituents of them, and not of the original pentagon.

Thus, in cases of greater complication, an elaborate structure may be supposed to be formed, to alter, and to pass away; its origin, growth, and decay being due, not to any independent motion of the particles constituting it, but to the movement of the disk whereby its portions of matter were brought to regions where there was a particular disposition of the grooves.

Then the nature--if the shape would really be determined by the grooves, not by the portions of matter which passed over them--they would become manifest as giving rise to a material form when a disk passed over them, but they would subsist independently of the disk; and if another disk were to pass over the same grooves, exactly the same material structures would spring up as came into being before.

If we make a similar supposition about our aether along which our earth slides, we may conceive the movements of the particles of matter to be determined, not by attractions or repulsions exerted on one another, but to be set in existence by the alterations in the directions of the grooves of the aether along which they are proceeding.

If the grooves were all parallel, the earth would proceed without any other motion than that of its path in the heavens.

But with an alteration in the direction of the grooves, the particles, instead of proceeding uniformly with the mass of the earth, would begin to move amongst each other. And by a sufficiently complicated arrangement of grooves it may be supposed that all the movements of the forms we see around us are due to interweaving and variously disposed grooves.

Thus the movements, which any body goes through, would depend on the arrangement of the aethereal grooves along which it was passing. As long as the grooves remain grouped together in approximately the same way, it would maintain its existence as the same body; but when the grooves separated, and became involved with the grooves of other objects, this body would cease to exist separately.

Thus the separate existences of the earth might conceivably be due to the disposition of those parts of the aether over which the earth passed. And thus any object would have to he separated into two parts, one the aethereal form, or modification which lasted, the other the material particles which, coming on with blind momentum, were directed into such movements as to produce the actual objects around us.

In this way there would be two parts in any organism, the material part and the aethereal part. There would be the material body, which soon passes and becomes indistinguishable from any other material body, and the aethereal body which remains.

Now, if we direct our attention to the material body, we see the phenomena of growth, decay, and death, the coming and the passing away of a living being, isolated during his existence, absolutely merged at his death into the common storehouse of matter.

But if we regard the aethereal body, we find something different. We find an organism which is not so absolutely separated from the surrounding organisms--an organism which is part of the aether, and which is linked to other aethereal organisms by its very substance--an organism between which and others there exists a unity incapable of being broken, and a common life which is rather marked than revealed by the matter which passes over it. The aethereal body moreover remains permanently when the material body has passed away.

The correspondences between the aethereal body and the life of an organism such as we know, is rather to be found in the emotional region than in the one of outward observation. To the aethereal form, all parts of it are equally one; but part of this form corresponds to the future of the material being, part of it to his past. Thus, care for the future and regard for the past would be the way in which the material being would exhibit the unity of the aethereal body, which is both his past, his present, and his future. That is to say, suppose the aethereal body capable of receiving an injury, an injury in one part of it would correspond to an injury in a man's past; an injury in another part that which the material body was traversing--would correspond to an injury to the man at the present moment; injury to the aethereal body at another part, would correspond to injury coming to the man at some future time. And the self-preservation of the aethereal body, supposing it to have such a motive, would in the last case be the motive of regarding his own future to the man. And inasmuch as the man felt the real unity of his aethereal body, and did not confine his attention to his material body, which is absolutely disunited at every moment from its future and its past--inasmuch as he apprehended his aethereal unity, insomuch would be care for his future welfare, and consider it as equal in importance to his present comfort. The correspondence between emotion and physical fact would be that the

emotion of regard corresponded to an undiscerned aethereal unity. And then also, just as the two tips of two fingers put down on a plane would seem to a plane being to be two completely different bodies, not connected together, so one and the same aethereal body might appear as two distinct material bodies, and any regard between the two would correspond to an apprehension of their aethereal unity. In the supposition of an aethereal body, it is not necessary to keep to the idea of the rigidity and permanence of the grooves defining the motion of the matter which, passing along, exhibits the material body. The aethereal body may have a life of its own, relations with other aethereal bodies, and a life as full of vicissitudes as that of the material body, which in its total orbit expresses in the movements of matter one phase in the life of the aethereal body.

But there are certain obvious considerations which prevent any serious dwelling on these speculations--they are only introduced here in order to show how the conception of higher space lends itself to the representation of certain indefinite apprehensions--such as that of the essential unity of the race--and affords a possible clue to correspondences between the emotional and the physical life.

The whole question of our relation to the aether has to be settled. That which we call the aether is far more probably the surface of a liquid, and the phenomena we observe due to surface tensions. Indeed, the physical questions concern us here nothing at all. It is easy enough to make some supposition which gives us a standing ground to discipline our higher-space perception; and when that is trained, we shall turn round and look at the facts.

The conception which we shall form of the universe will undoubtedly be as different from our present one, as the Copernican view differs from the more pleasant view of a wide immovable earth beneath a vast vault. Indeed, any conception of our place in the universe will be more agreeable than the thought of being on a spinning ball, kicked into space without any means of communication with any other inhabitants of the universe.

Higher Space and Higher Being

In the instinctive and sense perception of man and nature there is all hidden, which reflection afterwards brings into consciousness.

We are conscious of somewhat higher than each individual man when we look at men. In some, this consciousness reaches an extreme pitch, and becomes a religious apprehension. But in none is it otherwise than instinctive. The apprehension is sufficiently definite to be certain. But it is not expressible to us in terms of the reason.

Now, I have shown that by using the conception of higher space it is easy enough to make a supposition which shall show all mankind as physical parts of one whole. Our apparent isolation as bodies from each other is by no means so necessary to assume as it would appear. But, of course, a supposition of that kind is of no value, except as showing a possibility. If we came to examine into the matter closely, we should find a natural relationship which accounted for our consciousness being limited as at present it is.

The first thing to be done, is to organize our higher-space perception, and then look. We cannot tell what external objects will blend together into the unity of a higher being. But just as the riddle of the two hands becomes clear to us from our first inspection of higher space, so will there grow before our eyes greater unities and greater surprises.

We have been subject to a limitation of the most absurd character. Let us open our eyes and see the facts.

Now, it requires some training to open the eyes. For many years I worked at the subject without the slightest success. All was mere formalism. But by adopting the simplest means, and by a more thorough knowledge of space, the whole flashed clear.

Space shapes can only be symbolical of four-dimensional shapes; and if we do not deal with space shapes directly, but only treat them by symbols on the plane--as in analytical geometry--we are trying to get a perception of higher space through symbols of symbols, and the task is hopeless. But a direct study of space leads us to the knowledge of higher space. And with the knowledge of higher space there come into our ken boundless possibilities. All those things may be real, whereof saints and philosophers have dreamed.

Looking on the fact of life, it has become clear to the human mind, that justice, truth, purity, are to be sought--that they are principles which it is well to serve. And men have invented an abstract devotion to these, and all comes together in the grand but vague conception of Duty.

But all these thoughts are to those which spring up before us as the shadow on a bank of clouds of a great mountain is to the mountain itself. On the piled-up clouds falls the shadow--vast, imposing, but dark, colorless. If the beholder but turns, he beholds the mountain itself, towering grandly with verdant pines, the snowline, and the awful peaks.

So all these conceptions are the way in which now, with vision confined, we apprehend the great existences of the universe. Instead of an abstraction, what we have to serve is a reality, to which even our real things are but shadows. We are parts of a great being, in whose service, and with whose love, the utmost demands of duty are satisfied.

How can it not be a struggle, when the claims of righteousness mean diminished life--even death--to the individual who strives? And yet to a clear and more rational view it will be seen that in his extinction and loss, that which he loves--that real being which is to him shadowed forth in the present existence of wife and child--that being lives more truly, and in its life those he loves are his for ever.

But, of course, there are mistakes in what we consider to be our duty, as in everything else; and this is an additional reason for pursuing the quest of this reality. For by the rational observance of other material bodies than our own, we come to the conclusion that there are other beings around us like ourselves, whom we apprehend in virtue of two processes--the one simply a sense one of observation and reflection--the other a process of direct apprehension.

Now, if we did not go through the sense process of observation, we might, it is true, know that there were other human beings around us in some subtle way--in some mesmeric feeling; but we should not have that organized human life which, dealing with the things of the world, grows into such complicated forms. We should for ever be good-humored babies--a sensuous, affectionate kind of jelly-fish.

And just so now with reference to the high intelligences by whom we are surrounded. We feel them, but we do not realize them.

To realize them, it will be necessary to develop our power of perception.

The power of seeing with our bodily eye is limited to the three-dimensional section.

But I have shown that the inner eye is not thus limited; that we can organize our power of seeing in higher space, and that we can form conceptions of realities in this higher space, just as we can in our ordinary Space.

And this affords the groundwork for the perception and study of these other beings than man. Just as some mechanical means are necessary for the apprehension of our fellows in space, so a certain amount of mechanical education is necessary for the perception of higher beings in higher space.

Let us turn the current of our thought right round; instead of seeking after abstractions, and connecting our observations by ideas, let us train our sense of higher space and build up conceptions of greater realities, more absolute existences.

It is really a waste of time to write or read more generalities. Here is the grammar of the knowledge of higher being--let us learn it, not spend time in speculating as to whither it will lead us.

Yet one thing more. We are, with reference to the higher things of life, like blind and puzzled children. We know that we are members of one body, limbs of one vine; but we cannot discern, except by instinct and feeling, what that body is, what the vine is. If to know it would take away our feeling, then it were well never to know it. But fuller knowledge of other human beings does not take away our love for them; what reason is there then to suppose that a knowledge of the higher existences would deaden our feelings?

And then, again, we each of us have a feeling that we ourselves have a right to exist. We demand our own perpetuation. No man, I believe, is capable of sacrificing his life to any abstract idea; in all cases it is the consciousness of contact with some being that enables him to make the last human sacrifice. And what we can do by this study of higher space, is to make this consciousness, which has been reserved for a few, the property of all. Do we not all feel that there is a limit to our devotion to abstractions, none to beings whom we love. And to love them, we must know them.

Then, just as our own individual life is empty and meaningless without those we love, so the life of the human race is empty and meaningless without a knowledge of those that surround it. And although to some an inner knowledge of the oneness of all men is vouchsafed, it remains to be demonstrated to the many.

The perpetual struggle between individual interests and the common good can only be solved by merging both impulses in a love towards one being whose life lies in the fulfilment of each.

The Scientific Basis of Altruism and Religion

The reader will doubtless ask for some definite result corresponding to these words--something not of the nature of an hypothesis or a might-be. And in that I can only satisfy him after my own powers. My only strength is in detail and patience; and if he will go through the practical part of the book, it will assuredly dawn upon him that here is the beginning of an answer to his request. I only study the blocks and stones of the higher life. But here they are definite enough. And the more eager he is for personal and spiritual truth, the more eagerly do I urge him to take up the practical work, for the true good comes to us through those who, aspiring greatly, still

submit their aspirations to fact, and who, desiring to apprehend spirit, still are willing to manipulate matter.

The particular problem, at which I have worked for more than ten years, has been completely solved. It is possible for the mind to acquire a conception of higher space as adequate as that of our three-dimensional space, and to use it in the same manner.

There are two distinct ways of studying space--our familiar space at present in use. One is that of the analyst, who treats space relations by his algebra, and discovers marvellous relations. The other is that of the observer or mechanician, who studies the shapes of things in space directly.

A practical designer of machines would not find the knowledge of geometrical analysis of immediate help to him; and an artist or draughtsman still less so.

Now, my inquiry was whether it was possible to get the same power of conception of four-dimensional space as the designer and draughtsman have of three-dimensional space. It is possible.

And with this power it is possible for us to design machines in higher Space, and to conceive objects in this space, just as a draughtsman or artist does.

Analytical skill is not of much use in designing a statue or inventing a machine, or in appreciating the detail of either a work of art or a mechanical contrivance.

And hitherto the study of four-dimensional space has been conducted by analysis. Here, for the first time, the fact of the power of conception of four-dimensional space is demonstrated, and the means of educating it are given.

And I propose a complete system of work, of which the volume on four space is the first installment.

I shall bring forward a complete system of four-dimensional thought-mechanics, science, and art. The necessary condition is, that the mind acquire the power of using four-dimensional space as it now does three-dimensional.