Chukat: True Science

- Nisson Shulman.

The Laws of Torah have an element of Hukah, yet we seek to try to understand them. Rashi's approach. Comparing the way we approach Torah to the way true scientists approach science. The answer to Moshe Rabbenu's qauestion, "Show me Your ways", was to be shown the "Kesher shel tefilin", that is the connections, not the essence.

HUKAT: TRUE SCIENCE

The first words of the Torah portion are Zot hukat haTorah, "This is the statute of Torah." It is the statement of the famous concept of hok, a law which we don't always understand, but perform because it is God's command. Such a law is the Para Aduma, the Red Cow commandment.

I have two questions about the first sentence of this portion.

Why didn't the Torah say, Zot hukat hapara, "This is the statute of the cow that is used in the process of purification? The language Zot hukat haTorah implies that the concept of the “statute beyond reason” applies to the entire Torah. Is this true?

Rashi's comment is strange. He says: “Many people criticize us about this law. There are also an inner temptation and tendency in our own hearts to criticize the Torah in this matter, saying: "What reason is there for this practice?” Therefore, the Torah says: "It is a decree of God. You have no right to question it." Rash is strange because he turns what seems to be a perfectly good question into an answer! The criticism is that "There appears to be no reason for this law.” And we answer, "There is no reason for it!” What can Rashi mean by this? Rashi is all the more puzzling, because just a few verses later he himself gives a long, intricate, and highly plausible reason for every detail of the ceremony! But he had just said there is no reason for this commandment!

I would like to answer these questions with a thought based on a discussion I once had with my revered father and teacher, Avi Mori, zichrono liberacha, Harav Moshe Yitzchok Shulman.

We live in a century of science. Our schools teach basics, but also chemistry, physics, mathematics, social sciences, psychology, as well as philosophy, history and so much more. Technology is the byword of today's civilization, and for all this we have scientists to thank.

One of the remarkable phenomena of today's authentic science is the growing awareness of the limitations of science and the human mind.

Of course it takes a person of great moral courage and high intellectual achievement to admit that he does not know. That was the favorite point of the ancient philosopher, Plato, that the truly wise man is he who admits the limitations of his knowledge.

The greatest of today's scientists readily admit the limitations of their knowledge. The more they learn and know, the more ready they are to admit their ignorance when it comes to the deep secrets of life and the universe in which we live. When Astrophysicist Stephen Hawking of Cambridge issued his book, “A Brief History of Time”, a review article began with the statement that the general theory of relativity and quantum mechanics are not only not unified, but are in conflict.

When black holes were discovered in space, the frontiers of knowledge were pushed back immeasurably. In fact, one of the space probes tried to determine whether they exist in our galaxy. But with this discovery arose new questions, more baffling than any before experienced.

Scientists describe Black Holes in poetic terms, calling them bottomless holes in space from which nothing can escape, not even light, and which by their very nature cannot be studied. Bizarre non objects, in effect celestial vacuum cleaners voraciously devouring everything they meet, bottomless pits into which atomic particles, and giant stars disappear without a trace, rips in the very fabric of space and time, Things or objects or concepts, to which long cherished laws of nature simply do not apply! So unbelievable and paradoxical are the notions these black holes evoke, that they have led to what Physicist John Wheeler calls "The greatest crisis ever faced by physics." "Never before," says Wheeler, "did we think matter could be so ephemeral”.

"Imagine," says Harvard astrophysicist Jonathan Grindlay: “You take an enormous mass and shrink it down to nothing. A very disturbing idea.”

And Harvard physicist Larry Smarr, describing how impossible they are to observe, says: "There are parts of the universe from which, in principle, we cannot get any information.”

Just as with black holes, so in every area of scientific knowledge. We can only push back the frontiers of ignorance. But there are certain secrets we just cannot know!

When the mapping of the human genome was well under way, ethicists began to worry about whether genetic engineering and the pursuit and use of the genetic information would affect our conception of the human being.

The issue was discussed in a September 1999 Commentary Magazine article entitled, “The Moral Meaning of Genetic Technology”, by Leon R. Kass, Addie Clark Harding Professor at the University of Chicago.

He writes:

The technology comes into existence as part of the large humanitarian project to cure disease, prolong life, and alleviate suffering. As such, it occupies the moral high ground of compassionate healing. Who would not welcome surgery to correct the genetic defects that lead to sickle cell anemia, Huntington’s disease, breast cancer, or to protect against the immune deficiency posed by the AIDS virus.

And yet, genetic technology also represents something radically new and disquieting.

What is different about genetic technology? At first glance, not much. Isolating a disease-inducing aberrant gene looks very much the same as isolating a disease-inducing virus. Supplying diabetics with normal genes for producing insulin, has the same medical goal as supplying them with insulin itself for injection.

Nevertheless, despite these obvious similarities, genetic technology is also decisively different. When fully developed, it will wield two powers not shared by ordinary medical practice. Medicine treats only existing individuals, and it treats them only remedially, seeking to correct deviations from a more or less stable norm of health. Genetic engineering, by contrast, will, first of all, deliberately make changes that are transmissible into succeeding generations and may even alter in advance specific future individuals through direct "germ–line" or embryo interventions. Secondly, genetic engineering may be able, through so-called genetic enhancement, to create new human capacities and hence new norms of health and fitness.

But the major difficulty is in the area of human dignity.

Here lie our deepest concerns. Genetic technology is not morally neutral. It can bring changes in our values and our beliefs. It is these challenges to our dignity and humanity that are at the bottom of our anxiety over genetic science and technology.

The new advances tend, in some minds, to undermine the belief that humans are different in kind from animals. There appears to be an erosion of the idea of man as noble, dignified, precious or godlike, and its replacement with a view of man and nature, as mere raw material for manipulation and homogenization.

That was written scarcely six years ago. And then the breakthrough came - with the completion of the human genome map; and with it came startling results. More questions now arose than solutions, including the surprising similarity in genetic makeup of primitive creatures like the roundworm and the fruit fly on the one hand, and the human being on the other. And how exactly did the genomic elements act and interact in order to produce a human being, and how can something so similar be different, and in what element of the genome lies his humanity, the tzelem elokim if you will . . .

And these questions abound, not only in complicated matters. They exist even in relatively simple things.

For instance: At once time I began to study the laws governing Shabbat and the prohibition of the use of the microphone on the Holy Day. After as thorough a study as I could make, I was struck by what to me was an astonishing fact. While Halakhah was clear and precise about the principles involved, yet when it came to ascertaining just what exactly happened to electricity, how the electrons traveled along the wire and why, I found that the scientists themselves could not agree! There were several clashing theories to explain this simple well-known fact. Which was correct? Scientists couldn't say! It was one of the limitations of knowledge. The same is true of gravitation, of the secrets of DNA, of volcanoes and their eruptions, of every area of science. The limitations of our knowledge are perhaps as astounding as our discoveries. And when

seeking to uncover the innermost secrets, the actual "Why," scientists stand abashed, like Moses stood before the burning bush, with faces covered, saying: This place is hidden. There is no probe, which can fathom it.

This thought is expressed in a beautiful passage in the Talmud. In Anim Zmirot we say: "God showed the humble man the knot of His tefilin." "Kesher tefilin hera leanav." Who is the "humble man?" Moses, of course. This phrase is based on the passage in the Talmud that Moses sought to know the very secrets of God's way in the world, the "Why" in the story of God's relation to mankind and the universe. He asked God, "Teach me Your way"; He wasn't satisfied with perceiving God's power and his influence on earth. He wanted to know "How," and "Why."

But the Lord said, "No man shall see me and live!" The Lord showed Moses, instead, kesher shel tefilin, The knot that binds God's tefilin. Of course it is a metaphor. We attribute to the Almighty no body or form. And the metaphor means that Moses was not shown God's mind, intent, or thought, but only the knot, the connection. After all, isn't the connection between facts of nature, the secret of knowledge and discovery? Even to create a theory of relativity, even possibly a unified field theory connecting everything in the universe, we deal only with connections, not with the essence.

My father, Z"L once described a lecture he attended, given by Albert Einstein. The walls were covered with blackboards. He filled them all with formulae. This is related to this, this is connected to this and this, and so on. The connections, the bindings, but not the tefilin themselves. And making these connections is the major work of scientists such as those involved in the Genome Project and its application to human healing and human life.

Of course, this applies not only to science, to the study of nature, but also to the study of the Torah. In the world of Torah, too, those who have tasted only a little knowledge often think they know it all. They think they know the reason for mitzvot of the Torah. Yet we often hear them discarding the mitzvah, saying that the reason as they understand it, no longer applies.

They will say, for instance; "Shabbat is a beautiful mitzvah. But the reason was to give man a day of rest, and with the short work week we now have two days of rest, so the laws of Shabbat do not apply." A long time ago, a famous journalist, Brisbane of the New York Journal, once wrote an editorial entitled, "Poor Moses, He Had No Icebox." He tried to prove that Kashrut was invented by Moses to prevent meat spoilage in the Sinai desert and therefore was today outmoded. There are many, who, like that journalist, think they know the reasons for kashrut, and say that they no longer apply. "We have refrigerators," or "We know about trichinosis."

No, says the Torah. Hukot shamayim vaaretz asher barati. Like the laws of nature are eternal, so the laws of Torah are eternal. The phenomena of science are the facts of the world, which surround the human environment. The Mitzvot are the facts of Torah, which legislate for human behavior. They are eternal, and apply always, and to everyone, whether you know the reason for them or not! Just as in science, we know how to use the facts we see; we connect them and make great machines to do wonderful things; but we cant reach the very secrets of the universe at creation, so too, concerning the laws of Torah, we can speculate about them, apply them, search for principles behind them and connections between them, see how wonderfully they work in

human life, marvel at the Divine wisdom that created them, but the essence of these laws, God's reasons for them, are often hidden. We can only speculate, but never can we be sure we really know. That secret, the essence of God Himself, was not even revealed to Moses!

That is what Rashi meant to teach. There are people who are critics of the nation of Israel for accepting certain laws, which are beyond reason. The critics suggest reasons, but only to declare them old-fashioned.

No, says Rashi. The Torah clearly states: Zot hukat haTorah. The Torah has in every law, an element of decree of the Eternal. We can reason from what we do understand, recognizing its beauty and its Divine character, to that which we don't understand. But never will the human mind comprehend everything. We can search for reasons for all the laws, and find all possible connections, and even see in the Torah a unified field theory of the soul as complete as Einstein's in science, but it is all the kesher, the binding, not the tefilin. The secret of the tefilin is God's: hidden, but valid and binding nonetheless. Our reason can fall and fail, but the mitzvah stands forever. Hukot shaayim vaaeretz – like the heaven above and the earth below; a decree of God. We have permission to question like Maimonides in the Guide To The Perplexed, to seek reasons like Rashi himself sought to do, but not to deny. For not even to Moses was revealed more than the kesher, only the knot of the tefilin.

So Rashi cites the attack upon Torah, that we don't understand some of its laws. Rashi answers that it is true about Torah as about science that some parts of it are unfathomable. But, eyn lecha reshut leharher: You are not authorized to reject those parts of the Torah, just like we aren't able to reject those facts of science which we don't understand.

Rashi himself, by proceeding to present a possible reason for this law of the Para Aduma, shows by his example that the limitations of reason are no excuse to stop study or inquiry. But, we may not deny.

The heaven will vanish and the earth dissolve, before my law, which I commanded you will pass, sayeth the Lord!

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(Submitted by Nisson Shulman)