

# Mysterious New 'Borg' DNA Seems to Assimilate Genes From Different Organisms – A Spiritual Insight

By MATSATI - August 28, 2021



The title of this week's Science topic reminds us of the Star Trek fictional universe. The Borg are an alien group that appear as recurring antagonists in the Star Trek series. The Borg are cybernetic organisms linked in a hive mind called "*the Collective.*" The Borg co-opt the technology and knowledge of other alien species to the Collective through the process of "*assimilation,*" by forcibly transforming individual beings into "*drones / cyborgs*" and injecting nanoprobes into their bodies and surgically augmenting them with cybernetic components. The Borg's ultimate goal is to "*achieve technological perfection.*" This recent scientific research [1] reminds us of these things when geomicrobiologist researchers found something very similar in a scoop of mud in California. It was discovered an organism that seems to assimilate genes from different organisms in their surrounding environment. The structure of the DNA consists of nearly a million base pairs, this is very significant. When the Researchers sequenced the DNA, this revealed additional insights showing more than half of the genes were new. The organism had mirrored sequences at the end of each strand, and showed structures consistent with the ability to self-replicate. Making this discovery, the researchers began looking in DNA databases to see if they could find correlations elsewhere and identified 19 sequences that seemed to fit the profile.

## References

1. *Basem Al-Shayeb, et. al., Borgs are giant extrachromosomal elements with the potential to augment methane oxidation, BioRxiv, Preprint,*  
<https://doi.org/10.1101/2021.07.10.451761>

Geomicrobiology is a vast topic. Geomicrobiology is a multidisciplinary scientific field involving both geology and microbiology. It concerns the role of microbes on geological and

geochemical processes and the effect of minerals and metals on microbial growth, activity and survival. Such interactions occur in the geosphere, the atmosphere and the hydrosphere. Geomicrobiology studies the microorganisms that are driving the Earth's biogeochemical cycles, mediating mineral precipitation and dissolution, and absorbing and concentrating metals. There is an entire world at the microbial level that facilitates these things in the earth's biosphere. Environmental DNA is an excellent way to identify the range of organisms that inhabit an ecosystem. When researchers discovered these extremely massive base pairs in the DNA, it is unclear the purpose of these structures, but definitely fascinating nonetheless. These things are classified as extrachromosomal elements (ECEs) which are found outside of the chromosomes that contain most of an organism's genetic material. These ECEs were massive and self-replicating, and they are found both inside and outside of the cell nuclei, for example, these may be found in plasmids and viral DNA. What makes this particular finding so interesting is these ECEs are much more massive than others that have been found previously. DNA sequencing has revealed this Borg organism has features in common with a genus of archaea called Methanoperedens that oxidize methane. This is one of the points of the paper that was published, note the title. [1]

The idea of methane oxidation reduces the amount of methane in the atmosphere, with methane being a greenhouse gas, this research has found some interest in this process that reduces atmospheric methane. It is reported that Methanoperedens can't be grown in a laboratory setting making the study of these organisms and their ability to assimilate DNA difficult. The DNA in the environmental organisms may be contaminated by other genetic material in the same environment. These Borg organisms share a lot of the gene sequences from other elements and microbes. The conclusion is that these organisms have assimilated the genes and elements from other organisms, which draws our parallel to the Borg Science Fiction analogy of the alien race in Star Trek. The idea is that these genes may simply be contamination from their local environments. However, until these may be grown in a laboratory, it is impossible to know for certain how these organisms acquire so many genes. The researchers state that the large variation in genetic information allows for the Methanoperedens to produce proteins that could have distinct biophysical and biochemical properties. The variety of situations the organisms that digest the environment can vary widely and is the reason God has given this ability to adapt and extend its own metabolism and ability to survive.

The Spiritual insights that we receive from this type of research is related to the idea of how our environment changes our way of life. It isn't just pain and suffering that may influence our choices in life, even simply trying to live in this world which is filled with sin and wickedness also influences our choices, whether to live for the Lord, or to live a little for ourselves from time to time. When we study God's Word (the Bible) we learn a very important principle. According to the prophet Isaiah, we read the following:

**ספר ישעיה פרק מ**

**ח: יבִּשׁ חֲצִיר נֶבֶל צִיץ וְדָבַר-אֱלֹהֵינוּ יָקוּם לְעוֹלָם**

**ISAIAH 40:8**

***"GRASS WITHERS, A FLOWER FADES, BUT THE WORD OF OUR GOD  
WILL STAND FOREVER."***

What this teaches us is that the Lord God Almighty is the enduring reality in this sin filled and changing world! The purpose of our discontent is that this causes us to search for God. We are also told not to fear. Notice how much fear plays a part in most people's lives today! Especially with illness and those who trust in man (the vaccine) as opposed to those who trust in God. The following scripture speaks great truth concerning these things.

**ספר ירמיה פרק יז**

ה זה | אמר יהוה ארור הגבר אשר יבטח באדם ושם בשר זרעו ומן-יהוה יסור לבו. ו והיה כערער בערבה ולא יראה כי-יבוא טוב ושכן חררים במדבר אך מלחה ולא תשב. ז ברוך הגבר אשר יבטח ביהוה והיה יהוה מבטחו. ח והיה כעץ | שתול על-מים ועל-יובל ישלח שרשיו ולא ירא [יראה] כי-יבא חם והיה עלהו רענן ובשנת בצרת לא ידאג ולא ימיש מעשות פרי: ט עקב הלב מפל ואגש הוא מי ידענו: י אני יהוה חקר לב בחן כליות ולתת לאיש כדרכו [כדרכיו] כפרי מעלליו

**JEREMIAH 17:5-10**

17:5 THUS SAYS THE LORD, 'CURSED IS THE MAN WHO TRUSTS IN MANKIND AND MAKES FLESH HIS STRENGTH, AND WHOSE HEART TURNS AWAY FROM THE LORD. 17:6 'FOR HE WILL BE LIKE A BUSH IN THE DESERT AND WILL NOT SEE WHEN PROSPERITY COMES, BUT WILL LIVE IN STONY WASTES IN THE WILDERNESS, A LAND OF SALT WITHOUT INHABITANT. 17:7 'BLESSED IS THE MAN WHO TRUSTS IN THE LORD AND WHOSE TRUST IS THE LORD. 17:8 'FOR HE WILL BE LIKE A TREE PLANTED BY THE WATER, THAT EXTENDS ITS ROOTS BY A STREAM AND WILL NOT FEAR WHEN THE HEAT COMES; BUT ITS LEAVES WILL BE GREEN, AND IT WILL NOT BE ANXIOUS IN A YEAR OF DROUGHT NOR CEASE TO YIELD FRUIT. 17:9 'THE HEART IS MORE DECEITFUL THAN ALL ELSE AND IS DESPERATELY SICK; WHO CAN UNDERSTAND IT? 17:10 'I, THE LORD, SEARCH THE HEART, I TEST THE MIND, EVEN TO GIVE TO EACH MAN ACCORDING TO HIS WAYS, ACCORDING TO THE RESULTS OF HIS DEEDS. (NASB)

Notice how Jeremiah states *thus says the Lord.* This is God speaking these things and not simply the interpretation of the prophet Jeremiah. God is speaking to us through the prophet Jeremiah saying, ארור הגבר אשר יבטח באדם ושם בשר זרעו ומן-יהוה יסור לבו *"cursed is the man who trust in man and makes flesh his strength and who turns away from the Lord."* We note here the word זרעו is a noun, common, singular, construct, meaning *"arm, forearm, power, force, help."* The words שם בשר זרעו mean *"placing the flesh as his strength."* Such a person has set a curse upon himself due to his trusting in this world rather than trusting in God. This is exactly what the vaccinated are doing this very day! Trusting in the strength of man as opposed to trusting in the Lord God Almighty! We note how this world is reckoned as nothing, their glory is תהו (tohu, confusion)! Note in the same chapter, the Lord says according to *Isaiah 40:23-24, 23 He brings princes to naught and reduces the rulers of this world to nothing. 24 No sooner are they planted, no sooner are*

*they sown, no sooner do they take root in the ground, than he blows on them and they wither, and a whirlwind sweeps them away like chaff. (NIV)* This world is as chaff, especially those who set themselves up against God, they are chaff, the remnant of what was burned, and human life is fading because the breath of the Lord blows upon it! (Isaiah 40:7). God himself ordained human life to be a vapor. This is why we are told to not trust in this world, in the flesh, but to trust in the Lord, for the One who trusts in the Lord he is blessed just as the scriptures say, זָרוּחַ הַגֶּזֶר אֲשֶׁר יִכְטַח בֵּיהֶנּוּ וְהָיָה יְהוָה מְכַטְחוֹ *"blessed is the man who trusts in the Lord, and whose trust is the Lord!"* The reason we can trust in God is because the reward for having faith and trusting is eternal life! The Scriptures explain to us that the word of God stands forever, and our lives are that which establishes God's Word in this world! (Romans 3:31) This is the great hope that we have. Despite the situations we find ourselves in, whether in exile, living in oppression, or with pain and suffering, God's word speaks of everlasting consolation, נַחֲמוּ נַחֲמוּ נַחֲמוּ עַמִּי יִאֲמַר אֱלֹהֵיכֶם *"comfort, comfort, my people, says the Lord."* (Isaiah 40:1) These things speak to God's power and our future, regardless of our circumstances. Note these words God spoke to the Jewish exiles who were carried away to Babylon. These things remind us to keep ourselves in the love of God waiting for the mercy of our Lord Yeshua the Messiah that leads to eternal life. (Jude 1:21)

As we daily read the news, we are reminded that we are living in trying times, in a withered and fading world. We are nearing the end of days as it is prophesied according to the scriptures. We have to remember that our lives are rooted in truth that stands forever, that is the word of the living God! According to the scriptures, Yeshua is our life! He was raised up from the dead to live forever. So we press forward in faith and truth daily as we live in this world. The Lord is described as our Rock, which is a metaphor that implies that He is the immovable foundation and cornerstone of all things.

**ספר תהילים פרק מו**

*ב אֱלֹהִים לָנוּ מַחְסָה וְעַז עֲזָרָה בְּצָרוֹת נִמְצָא מֵאֵד: ג עַל-כֵּן לֹא-נִירָא בְהִמְרֵי אֶרֶץ וּבְמוֹט הַרִים בְּלֵב יַמִּים: ד יִהְיוּ יַחְמְרוּ מִימֵי יַרְעֵשׂוּ הַרִים בְּגִאוֹתוֹ סֵלָה*

**TEHILLIM / PSALMS 46:1-3**

*46 GOD IS OUR REFUGE AND STRENGTH, A VERY PRESENT HELP IN TROUBLE. 2 THEREFORE WILL NOT WE FEAR, THOUGH THE EARTH BE REMOVED, AND THOUGH THE MOUNTAINS BE CARRIED INTO THE MIDST OF THE SEA; 3 THOUGH THE WATERS THEREOF ROAR AND BE TROUBLED, THOUGH THE MOUNTAINS SHAKE WITH THE SWELLING THEREOF. SELAH.*

This is a Psalm for the sons of Korach (לְמַנְצִיחַ לְבְנֵי-קֹרַח עַל-עֲלֻמוֹת שִׁיר) speaking of God being our refuge (מַחְסָה) and our strength (עֲזָרָה) in the storm (midst of the sea, בְּלֵב יַמִּים) or even if the earth was moved (בְּהִמְרֵי אֶרֶץ) His divine presence will sustain our way. The hope that we have is because he is the faithful God (אֵל נֶאֱמָן), His name itself means strength, reliability, truth, and presence! We absolutely can trust in God's power to protect us! Why do so many people doubt God's ability to save their lives? Remember the solemn warning Yeshua gave to those who professed faith in Him.

**MATTHEW 7:16-28**

7:16 'YOU WILL KNOW THEM BY THEIR FRUITS. GRAPES ARE NOT GATHERED FROM THORN BUSHES NOR FIGS FROM THISTLES, ARE THEY? 7:17 'SO EVERY GOOD TREE BEARS GOOD FRUIT, BUT THE BAD TREE BEARS BAD FRUIT. 7:18 'A GOOD TREE CANNOT PRODUCE BAD FRUIT, NOR CAN A BAD TREE PRODUCE GOOD FRUIT. 7:19 'EVERY TREE THAT DOES NOT BEAR GOOD FRUIT IS CUT DOWN AND THROWN INTO THE FIRE. 7:20 'SO THEN, YOU WILL KNOW THEM BY THEIR FRUITS. 7:21 'NOT EVERYONE WHO SAYS TO ME, 'LORD, LORD,' WILL ENTER THE KINGDOM OF HEAVEN, BUT HE WHO DOES THE WILL OF MY FATHER WHO IS IN HEAVEN WILL ENTER 7:22 'MANY WILL SAY TO ME ON THAT DAY, 'LORD, LORD, DID WE NOT PROPHECY IN YOUR NAME, AND IN YOUR NAME CAST OUT DEMONS, AND IN YOUR NAME PERFORM MANY MIRACLES?' 7:23 'AND THEN I WILL DECLARE TO THEM, 'I NEVER KNEW YOU; DEPART FROM ME, YOU WHO PRACTICE LAWLESSNESS.' 7:24 'THEREFORE EVERYONE WHO HEARS THESE WORDS OF MINE AND ACTS ON THEM, MAY BE COMPARED TO A WISE MAN WHO BUILT HIS HOUSE ON THE ROCK. 7:25 'AND THE RAIN FELL, AND THE FLOODS CAME, AND THE WINDS BLEW AND SLAMMED AGAINST THAT HOUSE; AND YET IT DID NOT FALL, FOR IT HAD BEEN FOUNDED ON THE ROCK. 7:26 'EVERYONE WHO HEARS THESE WORDS OF MINE AND DOES NOT ACT ON THEM, WILL BE LIKE A FOOLISH MAN WHO BUILT HIS HOUSE ON THE SAND. 7:27 'THE RAIN FELL, AND THE FLOODS CAME, AND THE WINDS BLEW AND SLAMMED AGAINST THAT HOUSE; AND IT FELL AND GREAT WAS ITS FALL.' 7:28 WHEN JESUS HAD FINISHED THESE WORDS, THE CROWDS WERE AMAZED AT HIS TEACHING;

(NASB)

Note the context of what Yeshua is saying here. He is speaking of the kind of fruit one produces in his life and how a person who is a child of God is supposed to be a certain type of person analogized as a type of plant that produces fruit. Then he warns us that those who call upon His name are not to delude themselves by their words professing faith, but do not live what they say they believe. Despite the practice and profession of their kind of faith, these people were strangers to God. The essential question for us today is whether Yeshua truly knows you? It is possible to know a lot about God according to the Bible, religion, spirituality, and yet remain unknown to Him! The question is where do you find your source of life? Where are you going if you were to die at this very moment? According to the Scriptures, the time immediately preceding the appearance of Mashiach will be a time of testing in which the world will undergo various forms of tribulation called chevlei Mashiach (חֲבֵלֵי הַמָּשִׁיחַ) the "*birth pangs of the Messiah*." These are trials and tribulations that will come just before the Messiah returns. These are called חֲבֵלֵי הַמָּשִׁיחַ because these

tribulations are similar to a mother in labor. The same way the labor pains increase in frequency and pain for the pregnant woman the tribulation pain will increase in intensity for the people on earth. Jeremiah foresaw a time when men would groan and be in a time of distress as if they were women in labor. Jeremiah wrote saying, *"Ask now, and see if a male can give birth. Why do I see every man with his hands on his loins, as a woman in childbirth? And why have all faces turned pale?"* (Jeremiah 30:6). The prophet Micah also wrote, *"For a son dishonors his father, a daughter rises up against her mother, a daughter-in-law against her mother-in-law— a man's enemies are the members of his own household."* (Micah 7:6) Isn't this an exact description of what we have going on today in this world? These are called birth pangs (Matthew 24:8) where Yeshua was clearly referring back to Jeremiah's prophecy. Scientific research describes these Borg organisms which share a lot of the gene sequences from other elements and microbes. The conclusion is that these organisms have assimilated the genes and elements from other organisms, which draws our parallel to the Borg Science Fiction analogy of the alien race in Star Trek. We drew out the Spiritual insight that we receive from this type of research as being related to the idea of how our environment changes our way of life. We cannot allow the world to affect our relationship with God, or even whether we have faith and trust in God's ability to save us! If we are able to trust in His saving us from Hell, why is it so difficult to trust in His saving us from the dangers of this world? Is this what Yeshua was talking about, living in fear as opposed to truly living by faith? This is a very important question, don't you think?

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Dr. Duane D. Miller received his Ph.D., M.S., and B.S. Degree in Chemical Engineering from The University of Akron Ohio. He is currently a Chemical Engineering Researcher. Duane's research expertise has focused upon functional materials development for the control, conversion, and release of process gases in Energy production technologies. His R&D interests include computational chemistry, developing novel technologies for converting biomass to fuels and studying their fundamental interactions during the chemical conversion process. His past experience includes sorbent development for pre- and post-combustion CO<sub>2</sub> and SO<sub>2</sub> capture, selective absorption of H<sub>2</sub>S from methane streams, O<sub>2</sub> capture for oxy-fuel combustion, photocatalytic reduction of alcohols, NO<sub>x</sub> reduction catalysis, the development of oxygen carriers to combust fossil fuels (CH<sub>4</sub> and coal) for the chemical looping combustion processes, and the extraction of rare earth elements using patent pending sorbents. His research expertise has focused on operando-characterization using Infrared, Raman, and UV-Vis spectroscopy to observe the nature of the catalytic active sites and reaction intermediates under realistic reaction conditions, allowing direct correlation of molecular/electronic structures with catalyst performance during Gas-Solid / Liquid-Solid Adsorption and Photocatalytic Processes with real time online analysis of reaction products using ICP-MS and mass spectrometry. His current work involves a multi-disciplinary approach to developing, understanding, and improving the catalytic gasification of coal and methane, high temperature chemical looping combustion, and the catalytic decomposition and gasification of biomass and coal using novel microwave reactor. He has been studying the Hebrew Scriptures and the Torah for 20+ years and sharing what he has learned. The studies developed for MATSATI.COM are freely to be used by everyone, to God be the Glory!