

## **Information is Perceptual**

### **The Kabbalists' Paradox**

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Everything we know is the result of what we perceive and how we interpret it. This axiom applies to everybody, even to deeply religious people, like the Kabbalists of the past. "Kabbalah is the traditional and most commonly used term for the esoteric teachings of Judaism and for Jewish mysticism." (Scholem, Kabbalah, 1) All the Jewish mystics until the 20<sup>th</sup> century were committed to and practicing their religion to various degrees. They simultaneously believed in the existence of an unknowable G-d and were interested in understanding and knowing more about the divine and its creation. In order to achieve this goal they had to harmonize what they perceived with what they believed could not ordinarily be perceived, such as the divine presence. In this process of searching for the non-perceptible and de-anthropomorphized G-d they created an elaborate, perceptible system of concepts. From the etic view they interpreted perceived information in a way that made sense to them. From their (emic) point of view, however, the perceivable information around them fit the models they carefully built. This is what I call the paradox of the Kabbalists: the only way for them to deal with the divine information was to make it perceptual. This paper will show how.

First, the basic definitions need to be clarified. I will use "information" in all the three meanings Buckland formulated (Buckland, 351),

1. Information-as-process: when someone is informed, what they know is changed. In this sense "information" is "the act of informing".

2. Information-as-knowledge: to denote that which is perceived in information-as-process; the knowledge communicated.

### 3. Information-as-thing: objects, such as data and documents.

No matter which aspect we examine we can conclude that information is perceptual. In the process of getting informed we are using our senses both to communicate and to receive the information itself. The definition of information-as-knowledge itself suggests that it is the perceived information that we turn into knowledge. Finally information carrying objects need to be experienced (smelled, seen, touched, heard) in order to be considered information for humans.

The central document of the orthodox Jewish worldview, the context we explore the perceptual information theme is the Torah, the five books of Moses, the very beginning of the Bible. According to the traditional view, it was given as is by G-d, to Moses. Literary, textual analysis suggests that it was written over a period of several centuries and canonized by a small group of editors. For example, Friedman concluded, and most scholars agree with him to some extent, that there were four major authors or sources. (Friedman) Independently from its origin, its content had to be transmitted verbally for hundreds, or possibly thousands, of years before it was written down. Until then, and even later until printed copies became cheap enough for wider distribution, the rabbis and scholars memorized the whole Torah. We may marvel nowadays how they were capable of doing this. For example, they knew more books from heart besides Torah. Part of the answer lies in the fact that the information the ancients encountered in their daily life was much less than we do. Another part is repetition and mnemonic devices. Jews cycled (and still do) through the whole Torah every year (or every three years, depending on which tradition you follow) by reciting a few chapters at every Sabbath services. The repetition of parashot (weekly sections) gave them a chance to learn and relearn their most sacred book every year.

Despite familiarity and capacity, they needed a method for memorization: mnemonic devices. The Hebrew alphabet has 22 letters, all consonants. Each letter has a numerical value

assigned to it. Gematria "consists of explaining a word or group of words according to the numerical value of the letters." (Scholem, Kabbalah, 337) Gematria is often used as the basis for a mnemonic device and also to uncover, mystical, hidden connections. Gematria is an integral part of Kabbalistic tradition.

For example, Parasha (singular for parashot) Tetzaveh (Exodus 27:20–30:10) has 101 verses. The numerical value of the word Michael is also 101. In order to remember that this parasha has 101 verses the Kabbalists and rabbis created several stories and explanations how Michael is connected to this section of the Torah. For example, "most of this parasha relates to the garments of the Kohen Gadol [chief priest]. Micha'el, Chazal [Talmudic sages] teach, is the Kohen Gadol among the angels serving in the heavenly Bet Hamikdash [Temple]." (Katz) This was a fairly typical mnemonic device, designed to trigger the mind to access and remember information. It is very much perceptual, as the picture utilized engages our sensory imagination (of heaven) to retain information.

Not only is the entire Torah considered sacred, because of its divine origin, but also the Hebrew alphabet itself. It is in reciprocal relationship with the Torah. The divine words contain the letters that are, therefore, divine in themselves. The four letter divine name, the Tetragrammatron, which cannot be pronounced by Jews, is also made up from letters of the alphabet. Orthography, "the linguistic study of written language" (Brooks, Orthography, 1) has been important since the beginning of literacy. The written version of Torah contains peculiarities, such as extra spaces between words, or certain letters sized or positioned differently than others. These all modify meaning, enhance understanding, and are associated with special significance.

Letters also play an important role in the various versions of the golem story. According to its most popular and latest version, Judah Lew ben Bezalel--aka the Maharal, who lived in late 16<sup>th</sup> century Prague—created a being from clay and inscribed letters on its forehead causing it to become alive, but without self-awareness. What exactly was written on the proto-robot's head varies in the sources. Gershom Scholem, the founder of modern scholarly study of Kabbalah, devotes a whole chapter in his book, "On the Kabbalah and Its Symbolism" (Scholem, Symbolism, 158-204) to the question of the golem. He concludes that this particular instance of the golem story is not authentic, but others that predate it are. I encountered three versions of the orthography of what needs to be written on the golem to make it alive, to unleash the secret power hidden in the language. Either the use of "aleph with which in the Hebrew text the first commandment begins," (Scholem, Symbolism, 30), the secret name of the divine, or "all the letters of the alphabet over every limb of the golem, combined with one of the letters of the Tetragrammatron" (Idel, 100) can lead to the desired result, but only in the right order or format. The smallest change can have disastrous effects. In this context the orthography of information-as-thing is essential, just like it would be in any information retrieval system. Again, the way the Kabbalists perceived and created the letters carried the information, and in their view to the highest possible degree.

There were Kabbalists who went further. For example Abraham Abulafia in the 13<sup>th</sup> century created *Hokhmah ha-Tseruf*, the

"science of combination of letters, a methodical guide to meditation with the aid of letters and their configurations. The individual letters of their combinations need have no meaning [...] Abulafia accepts the Kabbalistic doctrine of divine language as the substance of reality." (Scholem, Trends, 133)

Abulafia's approach is related to Derrida's concept of language. Derrida argues that language "only refers to other language, therefore negating the idea of a single, valid 'meaning'

of a text as intended by the author." (Derrida, 1) They both removed meaning from the text/letters by deconstruction and re-applied it in different ways. For Abulafia it is a vehicle of getting to know the unknowable through meditation, while for Derrida it became a technique of explication. They decided that the information they perceived via language was not sufficient to contain the complexity of reality. But they both started off from the perceptible language itself.

The most commonly known concept of Kabbalah is the ten Sefirot, often depicted and understood as the Tree of Life. The theory of emanation of the Sefirot originates from one of the oldest Kabbalistic books, the Sefer Yetzirah. It is concerned with the process of creation and postulates that it involved the modification of the spirit of G-d in ten stages. These stages or steps are the levels of emanations. This abstract concept enabled the Kabbalists to bridge the gap between the perceived world and the unperceivable divine. As the divine spirit pours out, it emanates through the stages of the Sefirot as the tangible world is created step by step. Going the other direction, a human tracing the steps of the Sefirot upwards can contact with the divine, or at least gain an increasingly deep understanding.

The Kabbalists, however, did not necessarily concur on the details. For example, on the question of the existence of the Sefirot within or outside the divine they are not united. (Scholem, Kabbalah, 24) There is general consensus that there are ten levels, and about their names and order, although not necessarily their significance. The most common depiction of the Sefirot places them on three vertical columns, where four Sefirot are on the middle, longer pillar and three-three on the other two. This is known as the Tree of life. The role of the Tree of Life can be compared to that of XMLs; they both serve the purpose of structuring data. The data for the former is the whole universe, while the latter has less lofty goals; "XML makes it easy for a computer to generate data, read data, and ensure that the data structure unambiguous." (Bos, 1)

Nevertheless, they are both models, languages helping humans through intermediaries, to process information otherwise not perceivable.

Once the Tree of Life model was available it was applied as a tool to understand other aspects of the world. It was projected on the human body and anatomy was examined in terms of the meanings of the ten Sefirot. Similarly, emotions were correlated with the ten stages. The colors of the rainbow, the elements, the divine names, biblical figures... are all mapped onto the same system of Sefirot. This constant repurposing can be understood in multiple ways. On one hand it is similar to XML, the same structure can be used. If one is familiar with the structure it can help to navigate in any information environment. Furthermore, just like "XML does allow anyone to design a new, custom-built language," (Bosak 4) the Tree of Life allows anybody to apply the model/map to anything they wish to. Indeed many modern Kabbalists, both Jewish and non-Jewish, poured a wide range of content into the same schema. The recent proliferation of popular books on the topic can be partially attributed to the usability of this model, each to her/his own perception.

On the other hand the model can by now be viewed similarly to web pages that "are mere input to the reading experience." (Brooks, No bad, 1) Brooks suggests that the tools enabling users to modify their user experience on the web developed to such extent that the idea that a web page has a single look and feel is imperiled. Similarly, the Kabbalah which used to be the hidden knowledge, reserved only for a select few, became available to everybody the understanding of what it is and what it can do is no longer in the hands of a limited number of people. Anybody who reads a few books, and attends a few lectures can claim initiation into or an understanding of the Tree of Life and apply it in any new way to her/his life, creating a new experience, a new perceptions for themselves and others.

Finally, the Kabbalist system of Sefirot can be compared to the semantic web notion of Berners-Lee. The body of Kabbalistic knowledge and literature was built up over hundreds or thousands of years, according to the etic and emic view respectively. The people contributing it were scattered on three continents, using a variety of languages and interacting with a multitude of host cultures. The result may seem to be one coherent, integrated system, but it is far from it; interpretations and ascribed meanings vary tremendously. But they all cross-fertilized each other. This aspect is reminiscent of the semantic web. Berners Lee envisioned six years ago that "The Semantic Web will bring structure to the meaningful content of Web pages, creating an environment where software agents roaming from page to page can readily carry out sophisticated tasks for users." (Bernes-Lee, 1) If we disregard the technology aspects of the above (which I admit is a big part of the vision) we can say that the Kabbalah already accomplished this. New meaning has been created for centuries from disparate sources. Just like in all the examples above the way they acquired the information to be processed was through the senses.

I showed how, within the Kabbalistic framework, mnemonic devices were used for Torah studying, how the orthography of the letters were employed on the golem, how letters were combined for meditative purposes, how the Sefirot can be perceived as a multipurpose XML schema, input for the user experience and prototype of the semantic web. None of this could have happened if information is not be perceptual. The information carried by letters, orthography, language, and models are all perceived first and processed later. No matter how focused the Kabbalists were and are on the imperceptible they can only use tools of perception in their exploration.

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