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## **Explanatory Statements – The Theory of Why**

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# Explanatory Statements – The Theory of Why

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## What is an Explanation?

An explanatory statement is a compound statement that presents a justification (a reason) for the truth of an assertion or a denial. For example:

- (1) **Humility is good** because **it is the result of straight reason**.
- (2) Since **humility is the result of straight reason**, therefore **humility is good**. (reversal of the order of the clauses of the statement)

These statements assert that the fact that humility is the result of straight reason is a justification for the fact that humility is good.

If we have an explanatory statement

‘A because B’ or ‘since B therefore A’

then we say that B is a reason or justification or grounds for A. An explanatory statement has the following parts:

- the **main clause A** – the clause that presents the assertion or denial. It is called the explanandum.
- the **explanatory clause B** – the clause that offers the justification or reason for the truth of the main clause. It is called the explanans, and it answers the question WHY.

Explanatory statements cannot be modeled in modern formal logic for two reasons:

- The FOPL conditional statement ‘ $B \supset A$ ’ does not capture the explanatory nature of the explanatory connection, it only expresses the fact that the truth of B ‘materially’ implies the truth of A. For example, if A=‘fire is hot’ and B= ‘1+1 equals 2’, then ‘ $B \supset A$ ’ is true but ‘A because B’ is false.
- The ‘because’ connective is referentially opaque. Even if statement B is necessarily equivalent to statement C, the two explanatory statements ‘A because B’ and ‘A because C’ may have different truth values.

Every explanatory statement generates a syllogism. For the example above:

Everything that is the result of straight reason is good.  
Humility is the result of straight reason.  
∴ Humility is good.

## Explanations in Biblical Hebrew

The Hebrew word **כי** *ki* has four meanings, one of which, **דהא**, is to introduce a reason for a previously mentioned statement.

In Rosh HaShanah 3a:

דאמר ר"ל כי משמש בד' לשונות אי דילמא אלא דהא

**Reish Lakish** said: The Hebrew word *ki* is used in the Bible in four senses: **if, perhaps, but, and because**.

### Example of Ki – Rosh HaShana 3a

(במדבר כ' כ"ט) ויראו כל העדה כי גוע אהרן וא"ר אבהו אל תקרי ויראו אלא וייראו כדריש לקיש

“**And all the congregation saw that [ki] Aaron was dead**, and they wept for Aaron thirty days, all the house of Israel” (Numbers 20:29). About this, **Rabbi Abahu said: Do not read** the verse as: “**And they saw [vayir'u]**”; rather, read it as: “**And they were seen [vayeira'u]**” by others, because the cover of the clouds of glory had been removed from them. **And** the next word, “that [ki],” should be understood as meaning **because**, like the statement of Reish Lakish. Therefore, the verse should be understood as follows:

- (3) **And all the congregation was seen**, i.e. revealed,  
**because [ki] Aaron had died**.

Here the simple meaning (the pshat) of the word *ki* in this pasuk is an introduction to a sentential complement ‘that Aaron had died’ that provides an answer to the question ‘What did the congregation see?’

Rabbi Abahu however interprets this *ki* (a drasha) as an introduction to an explanatory clause that answers the question ‘Why was the congregation seen, i.e. revealed? Because the cover of the clouds of glory had been removed from them. And why was that the case?’ with the answer ‘because Aaron had died’.

## Subject-Dependent Explanation: the Ramchal’s 24 Logical Aspects

Rabbi Moshe Chaim Luzzatto writes in the Supplement to Sefer HaHiggayon, called the K’naf Hekeshim, an analysis of explanatory statements using the 21 technical terms of logic. In Chapter 11 of Sefer Derech Tvunos, the Ramchal presents 24 logical aspects (havchanos), that can be used for delineating topics:

**Essence, Parts, Quality, Quantity, Material, Form, Action, Consequence, Genus and Species, Cause, Means, Motivation, Purpose, Result, Attribute, Location, Position, Movement, Time, Relation, Subject, Comparison, Difference, Contrast**

For explanations where the explanatory factor is simple an aspect of the subject, the explanatory statement has the following form:

- (4) **M has-property Z**  
**because (R of M) has-property Y**

Where subject (**R of M**) of the explanatory clause is a relational correlative of the subject of the main clause, using the relationship **R** from among the 24 logical aspects.

For example:

- (5) **Humility is good** because **its CAUSE is straight reason**.
- (6) **Learning Torah is good** because **its SPECIES is actions that are fulfillment of a Torah commandment**.
- (7) **Learning Torah is good** because **its RESULT is good action**.

## References

Luzzatto, R. Moshe Chaim, The Book of Logic and The Ways of Reason in The Way of Torah, translated and annotated by R. David Sackton and R. Chaim Tscholkowsky, Jerusalem: Feldheim Publishers, 2014.

Sefaria. <https://www.sefaria.org>

## Example of Subject-Dependent Explanatory Statements – Shabbos 111b

ר"מ אומר כל קשר שהוא יכול להתירו באחת מידיו אין חייבין עליו  
**Rabbi Meir says: For any knot that one can untie with one hand, one is not liable** for tying it on Shabbos to bring a sin-offering.

בעי רב אחדבוי אחוי דמר אחא עניבה לר"מ מהו טעמיה דר"מ משום דיכול להתירו באחת מידיו הוא והא נמי יכול להתירו או דילמא טעמא דר"מ משום דלא מיהדק והא מיהדק תיקו:

Rav Achadvoi, brother of Mar Achā, raised a dilemma: Is it permitted to tie a bow tightly on Shabbos, according to Rabbi Meir? Is the reason for the opinion of Rabbi Meir that **because one can untie the knot with one hand**, it is not considered a permanent knot (even if he intended it to be permanent – Rashi), and this bow too, he can untie it with one hand and therefore he would not be liable for tying on Shabbos? Or perhaps the reason for the opinion of Rabbi Meir is **because typically a knot that can be untied with one hand is not particularly tight**, and this bow is tight and therefore it is prohibited to tie it on Shabbos. The Gemara concludes: Let it stand unresolved.

According to the first side of the dilemma,

- (8) **A knot that one can untie with one hand has the property that one who ties it on Shabbos is not liable because the knot has the property that one can untie it with one hand.**

According to the second side, the qualification stated by Rabbi Meir is only a *siman*, not a *taama*:

- (9) **A knot that one can untie with one hand has the property that one who ties it on Shabbos is not liable because its QUALITY is lack of tightness.**

## Relational Explanatory Statements

Besides statements where the predicate is a simple property of the subject, such as ‘humility is good’, we also have relational statements of the form

- (10) **M has-property (R of N)**

where the predicate is composed of a relational term R and a correlate term N.

In the case of a relational main clause where the explanation depends solely upon the correlate:

- (11) **M has-property (R of N)**  
**because N has-property Y**

then we can rewrite the main clause so that its subject is the correlate as follows:

- (12) **N has the property that M has-property (R of N)**  
**because N has-property Y**

However, if the explanation depends upon the relation between the subject and correlate in the main clause:

- (13) **M has-property (R of N)**  
**because M has-property (Q of N)**

we have a new type, a **relational explanatory statement**:

- (14) **A person cannot makdish a stolen object**  
**because he does not own the object**