Microsoft Power Tools for Data Analysis #12

Power Query Locale to get Correct Date, Time, Number Formats

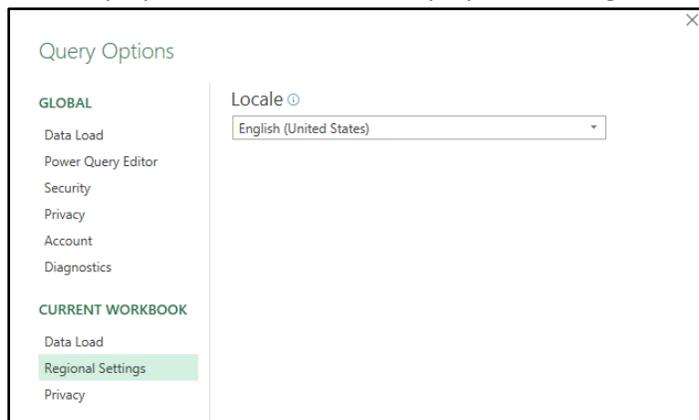## Notes from Video:

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1. **The Regional Settings / Locale settings in Excel and Power BI Desktop Power Query define how Dates, Times and Numbers are interpreted in Text Files.**
   1) In the Windows Operating System Locale and Regional Settings in Control Panel determines Numbers, Currency, Times, Dates are interpreted on your computer.
   2) Power Query uses Locale and Regional Settings from Windows Operating System to interpret data.
   3) **The problem arises if you get Text Files from a different country that uses a different format for Dates, Times and Numbers**
      i. In the below picture, the Region and Locale settings are set to United States English and this will cause the Dates and Numbers from a French Data Source to be interpreted as Text rather than proper Dates and Numbers.
      ii. Because the Reginal Settings are set to United States English, the second column that uses the Date Format DD/MM/YYY is interpreted as Text. We will see how to fix this in this video.
      iii. Because the Reginal Settings are set to United States English, the fifth column that uses a Number Format that uses spaces for Thousand Separators and Commas to indicate the decimals, the numbers are interpreted as Text. We will see how to fix this in this video.
      iv. The third Column shows ISO Dates which cannot be interpreted correctly using the Reginal / Locale settings, be can be converted using normal Data Types. We will see how to fix this in this video.


2. **Two Ways to Change Regional and Locale Settings so that Dates, Times and Numbers can be interpreted correctly: 1) Reginal Settings (For all imported Text Files), 2) "Data Type Using Locale..." Setting for individual columns**
   1) Power Query uses Locale and Regional Settings from Windows Operating System to interpret data
   2) **Excel Reginal Settings (For all imported Text Files in the Current Workbook)**
      i. You can change the Reginal Settings in the Power Query Editor so that all imported Text Files in the Current Workbook will be interpreted for the specified Reginal Setting.
      ii. To change the Regional settings in the Excel Power Query Editor: Go to the Data Ribbon Tab in Excel, then go to the Get & Transform group, then click the Get Data dropdown arrow, then click on Query Options, then in the Query Options dialog box click on Reginal Settings, as seen here:

3) **Power BI Desktop Reginal Settings (For all imported Text Files in the Current Power BI File)** :
   i. You can change the Reginal Settings in Power BI Desktop so that all imported Text Files in the Current Power BI File will be interpreted for the specified Reginal Setting.
   ii. To change the Regional settings in Power BI Desktop, go to the File Tab, then click on Options and Settings, then click on Options, then in the Options dialog box click on Regional Settings, as seen here:
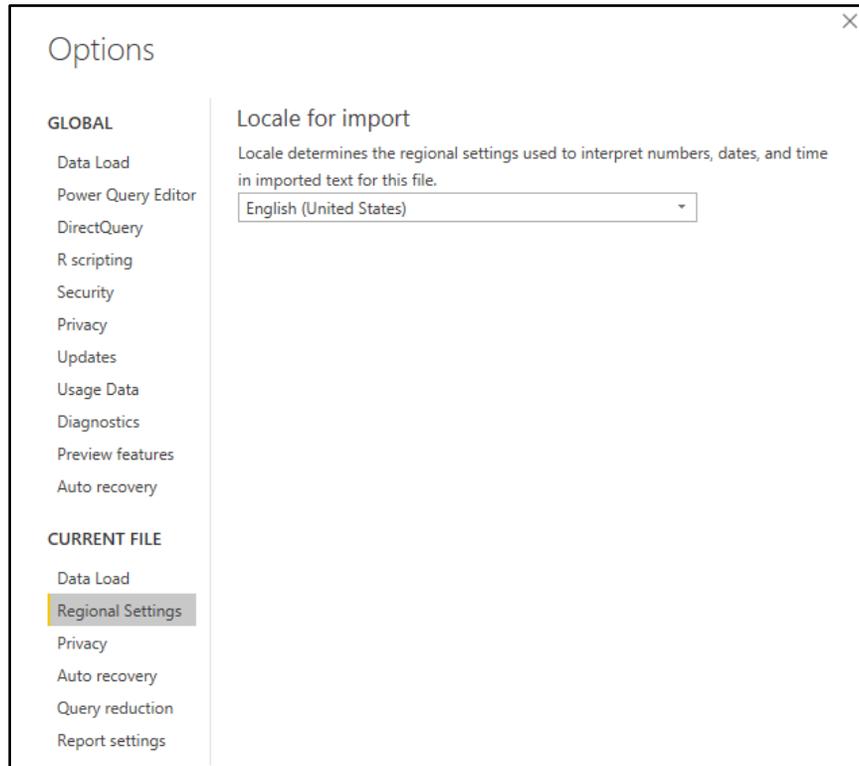
4) **"Data Type Using Locale…" Setting for individual columns (Same Process in Excel & Power BI Desktop)**
   i. You can change the Locale for a specific Column by using the Data Type Icon at the top of the column and then clicking on the option "Using Locale…" and then choosing the locale from the dialog box, as seen here:
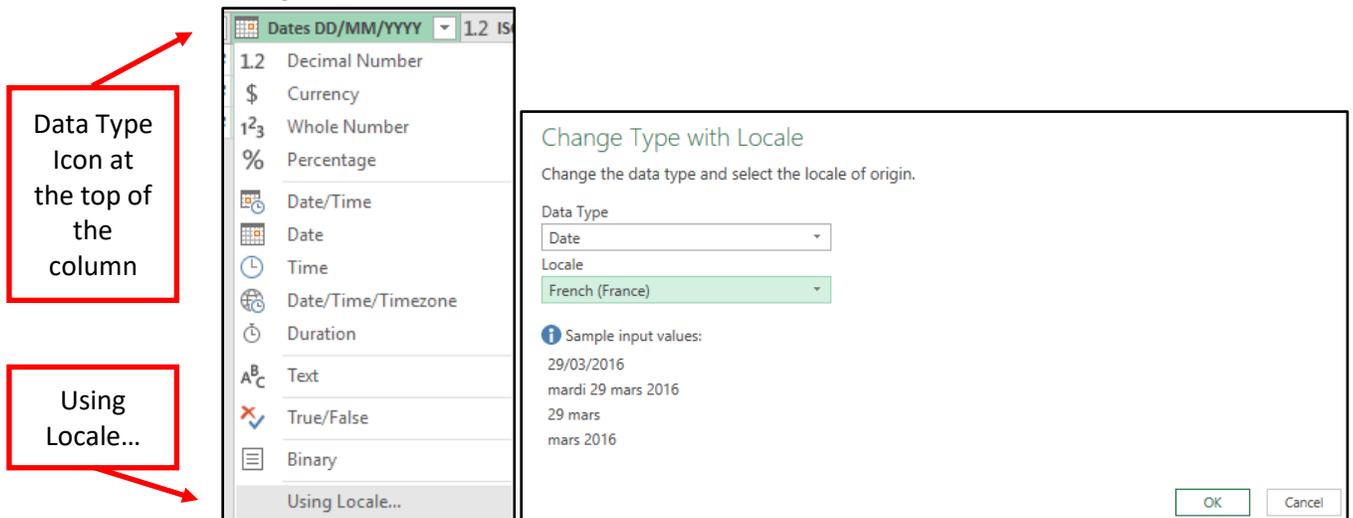
ii. **"Data Type Using Locale…" Option invokes the Table.TransformColumnTypes Power Query Function**

1. Example of changing the Locale on a Column to a "French (France) " Locale:

   = Table.TransformColumnTypes(#"Changed Type1", {{"Date", type date}}, "fr-FR")

2. The third argument in Table.TransformColumnTypes Function requires a code for the specified Locale.
3. If you use the Power Query User Interface, you do not need to worry about what the codes are.
4. But if you want to create advanced solutions, as seen in this video, then it is helpful to know where you can lookup the codes. Here is the Microsoft link to a list of these codes:

   https://msdn.microsoft.com/en-us/library/cc233982.aspx

5. Here is a picture of the codes that we used in our video:

Country as Spelled in File Name	LocaleCode
USA	en-US
France	fr-FR
Poland	pl-PL
German	de