MAKE THE DIFFERENCE BETWEEN VOLUME & LIQUIDITY

1) The PRICE dimension :

This dimension will allow us to see the evolution of prices (or also called "price action") over time. It is also called the "tick"; the smallest possible increment of variation of a price.

2) The TIME dimension :

this dimension will make it possible to measure the speed of price action and thus to be able to apprehend price volatility. Indeed, the more the price will move strongly over a short window of time, the more volatility can be considered as increasing.

3) The VOLUME dimension (market order) :

this dimension will make it possible to measure how many bid or ask contracts (market bid order or market ask order) were needed to lower or raise a price.

4) The LIQUIDITY dimension (limit order) :

This dimension will make it possible to see where limit orders awaiting execution are in the order book, and for what quantity they are displayed in the order book.

BASIC EQUATION :

PRICE ACTION = VOLUME > LIQUIDITY

In other words: if the quantity of volume exceeds the quantity available in front of the book, then the price will move!

PRICE THAT RISES = BUYER VOLUME (buy market orders) > SELLING LIQUIDITY (best offer)

This means that the price will go up, as soon as the size of the incoming Bid Market Order is larger than the size of the Bid Limit Order placed at the BEST OFFER of the book.

LOW PRICE = SELL MARKET ORDERS VOLUME > BUYING LIQUIDITY (BEST BID)

This means that the price will fall, as soon as the size of the incoming sell market order will be larger than the size of the bid limit order placed in the BEST BID book.

The price will therefore move to FIND the missing liquidity, which is requested by the market orders!

IT IS IMPORTANT TO DISTINCTION BETWEEN VOLUME and LIQUIDITY.

---> THE VOLUME : This is what is aggressive! These are the market orders (market bid order and/or market ask order) that want to be served immediately, in the desired quantity! And this at "any price"! That's why they are considered aggressive in their purchases and sales! They are aggressive because they prioritize QUANTITY at the execution PRICE. They are aggressive because they CONSUME liquidity in the order book. Indeed, with a market order, I know that I am served right away, I know that I am served in the full quantity that I want, but I am not sure of the price at which I will be served. (risk of slippage)

When buying or selling with a market order, the total quantity desired is guaranteed, as well as the immediacy of order execution. However, the price is not guaranteed. It is the priority of quantity and immediacy over price.

---> THE LIQUIDITY : This is what is passive! This is the set of limit orders (bid limit order placed below at the BID of the green book; and ask limit order placed above at the OFFER of the red book). These are therefore limit orders that are waiting to be executed, and waiting to be served, at the price at which they are initially placed! They are considered as passive, because their priority is to be served at the desired PRICE, and not necessarily in the whole of the desired QUANTITY! There is here a priority of price, and not of quantity. Indeed, with a limit order, I am sure that, if I am served, it will be at the price on which I initially placed my order! I may not be served in all the quantity desired, and maybe not even served at all! but what I am sure with a limit order, is that if I am served, it will be at the desired price! (priority of price over quantity here with a limit order) (no risk of slippage); unlike market orders that consume liquidity, here with a limit order, we will PROVIDE liquidity.

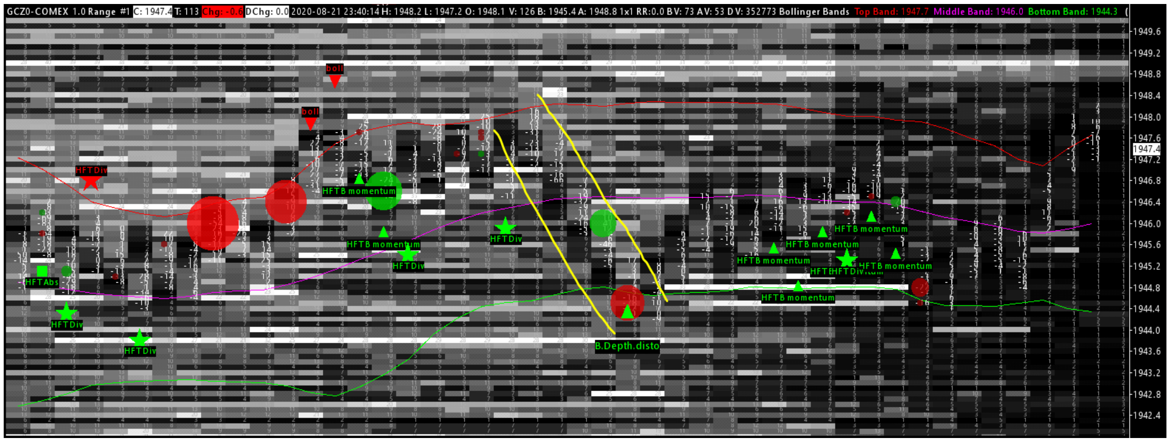
When we buy or sell with a limit order, we favour the desired initial price which will be guaranteed! The priority here is on the price and not on the desired quantity.

Note: it is also important to bear in mind that if we want to have market data that is relevant, accurate and representative of the overall market, we will of course have to give priority to market data (market data) that is derived from a future flow! And therefore use a futures contract to read the market data in order to have complete access to all these data which are by nature centralized by the various exchanges! (stock exchanges)

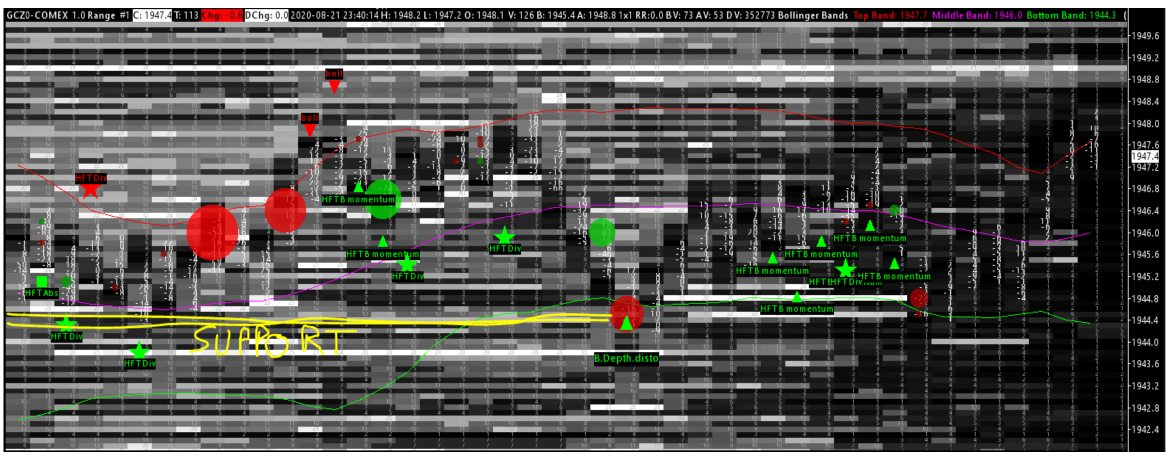
---> What simple decision making process for trading could we set up in this framework?

1) I identify a micro-structural price movement, for example here on the gold market, a downward

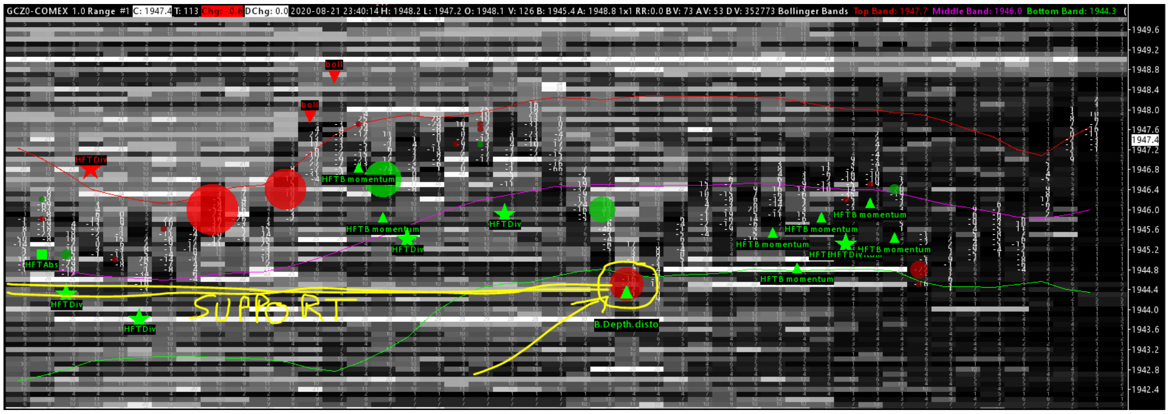
movement.



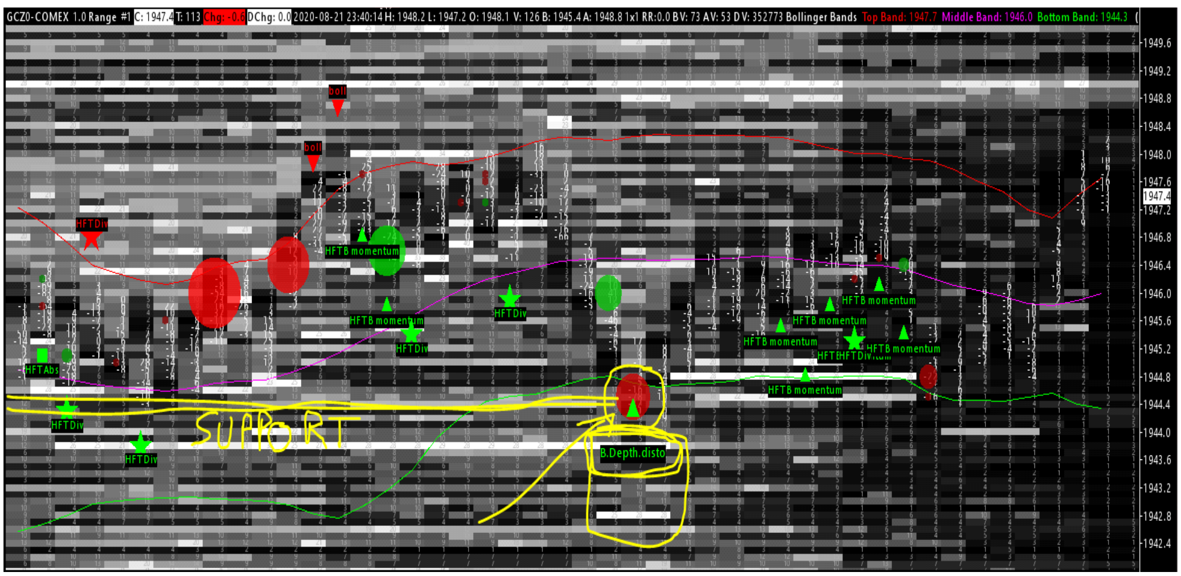
2) I identify an old price support that is being scraped from the bottom with a price that prints slightly underneath!



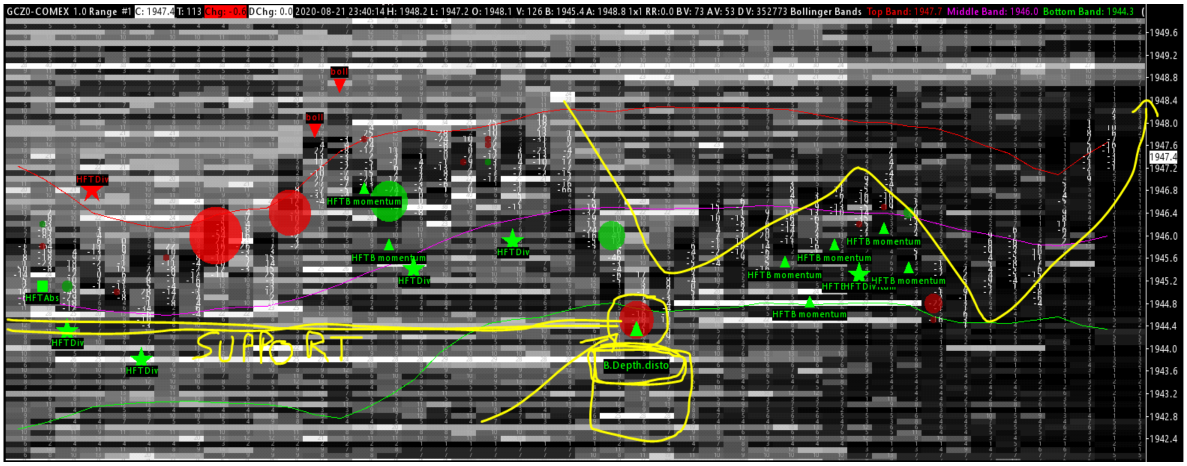
3) at this same "scraping" point under the support, I see a concentration of sell market orders (cluster) with a red bubble, which indicates that I have a concentration of sell volume (sell market order) clustered just under the support identified upstream. We are here on lower potential sellers (people who sell at this low price point; either because they are former buyers in positions who are stopped at a loss and who exit the market by reselling their purchases; or because they are people who enter the market, selling the lowest, believing that the low price point has been broken and who are hoping for a continuation of the decline).



4) **at the same time, we have a "Buy Depth Distortion" alert that goes on; this alert tells us that a process of adding orders to the BID of the book (buyer side of the book) is taking place, and that at the same time, we have a process of removing orders to the OFFER side of the book (seller side of the book) that also take place simultaneously!**



5) **the price then goes back to the upper bound of the Bollinger band; thus going from 1944.4 to 1948.2; that is almost 40 ticks of rebounds here, in two steps.**



For more details and additional information about this paper, I invite you to look at the case study I made on my website here: https://quant-orderflow-analyzer.webnode.fr/portfolio/

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