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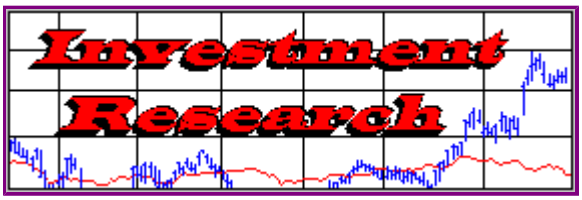


Introducing the MIDAS Method of Technical Analysis (15) by Paul Levine

This is the fifteenth article in a series. Click here to go to the **first**, **second**, **third**, **fourth**, **fifth**, **sixth**, **seventh**, **eighth**, **ninth**, **tenth**, **eleventh**, **twelfth**, **thirteenth**, or **fourteenth** article.

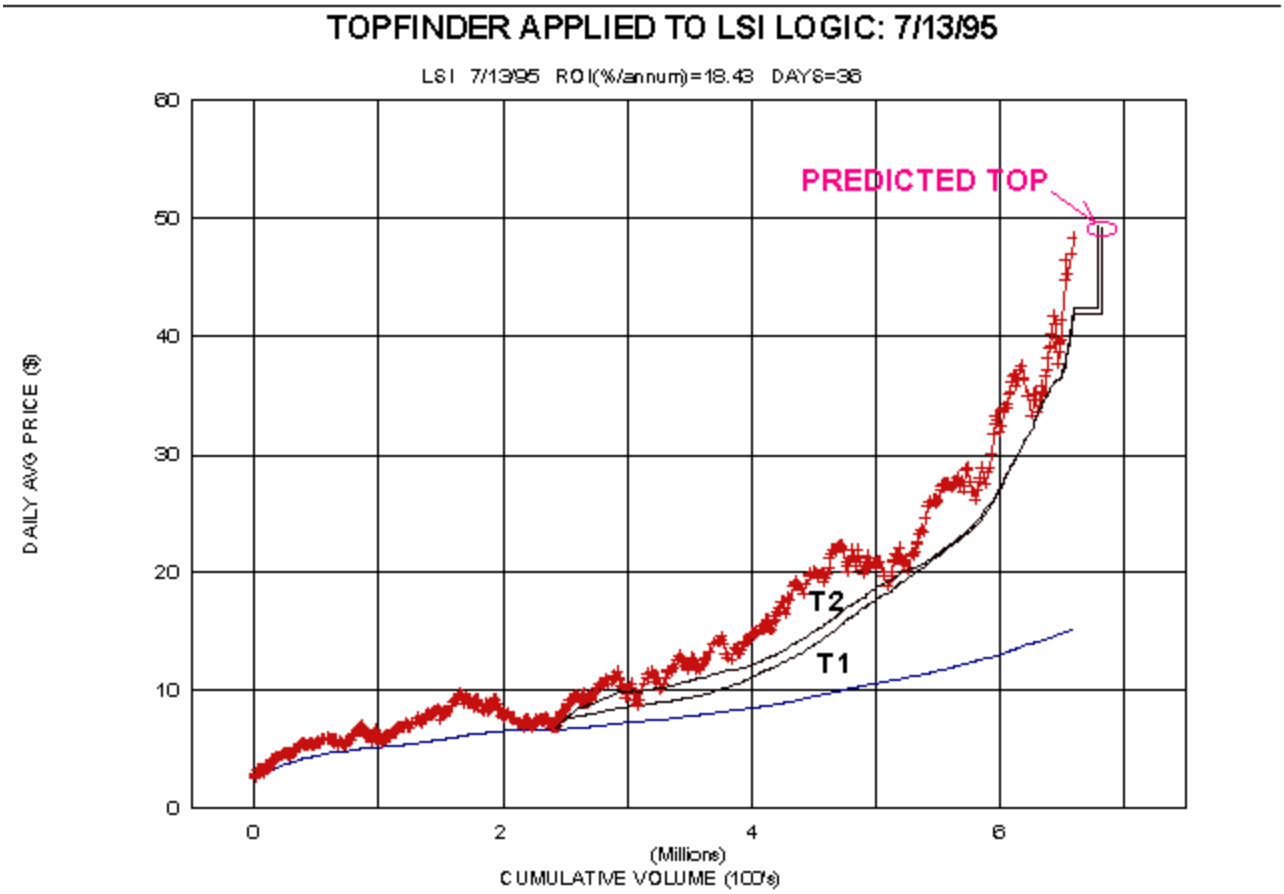
The TOPFINDER algorithm given in the previous article has been seen to be useful in "predicting" tops in historical price data. As the saying goes: "Prophecy is extremely difficult, especially as regards the future!". So in the present article we will apply TOPFINDER to a few stocks which have not yet reached their peaks. The future price action in these issues will thereby provide demonstrations of either the power or the limitations of the method.

First, however, a few words are required regarding the mechanics of applying the TOPFINDER algorithm. First one must pick a launch point, i, which identifies the day on which TOPFINDER is to start. Also the duration, D, must be chosen, where D is the cumulative volume from the launch point to the top. D is actually determined by iteratively adjusting it to provide a best "fit" to the price pullbacks subsequent to launch. To start this process, one must set D equal to some initial guess; I usually choose fifty days worth of volume, i.e. the cumulative volume at launch minus the cumulative volume fifty trading days earlier. In the fitting process used to determine D, generally an "eyeball" affair, give more weight to fitting the more recent pullbacks.

The actual computation of the TOPFINDER curve involves interpolation since we compute the difference between the current value of cum(p*v) and the corresponding value e units of cumulative volume earlier where e = d*(1 - d/D). "d" is the cumulative volume at the day for which the TOPFINDER curve is being computed minus the cumulative volume at lauch. e, therefore, will generally fall in the middle of some trading day so one has to interpolate linearly between the average price at the close of that day and the average price at the close of the preceding day.

In other words, cum(p*v) is only available from the data at a set of discrete cumulative volumes corresponding to the end of each trading day. Yet we are treating cum(p*v) as a continuous function of cumulative volume in order to determine it at values of cum(v) which do not generally correspond to one of these discrete points, and for this purpose we interpolate between the discrete values of cumulative volume bracketing e. Computationally, this will generally require a macro in a spreadsheet implementation of Midas, or some simple interpolation procedure if a high level language is used. Here I'll have to leave you to your own devices since to help you set up such calculations would carry us beyond the scope of these articles.

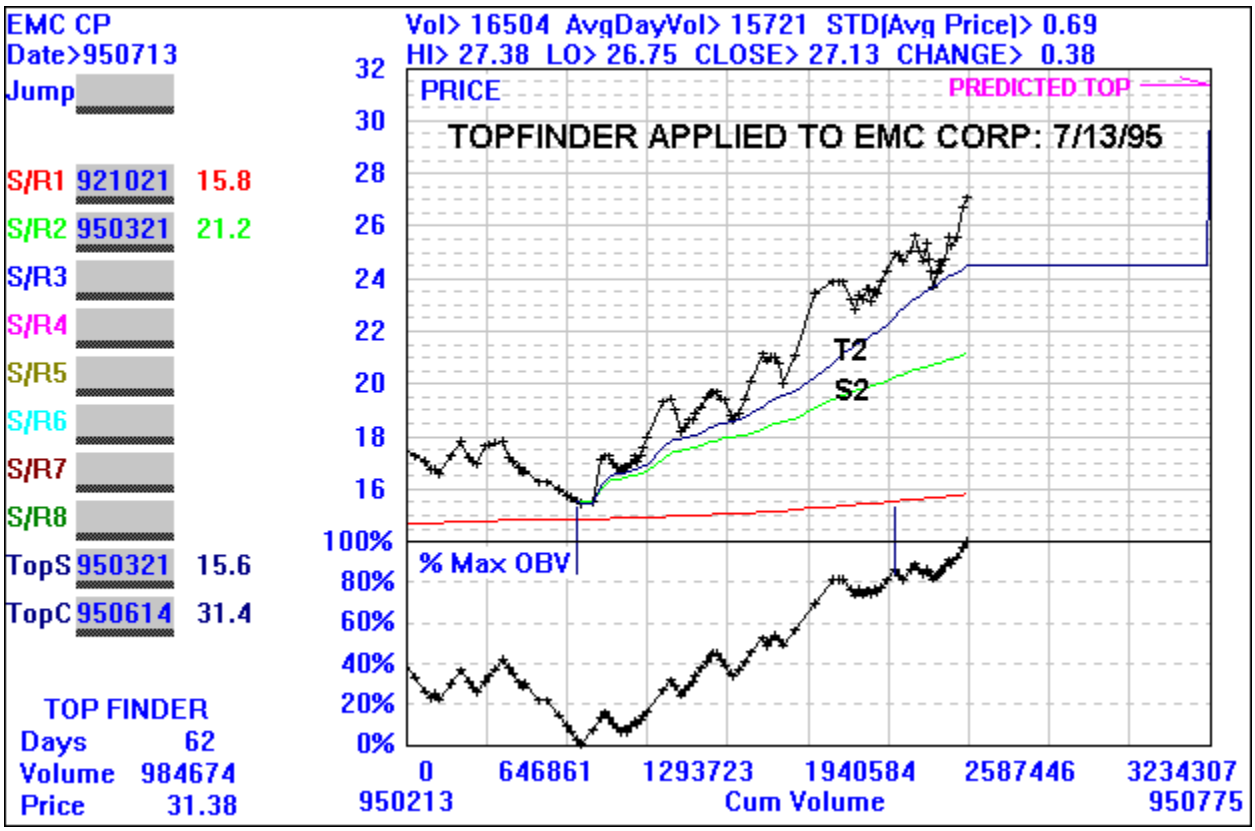
Turning now to prophecy, the first figure shows TOPFINDER applied to LSI Logic as of the day of writing this article. (obv has been omitted from the Midas chart so we can show more details of the price data). Shown are the primary support S1 (unlabelled for simplicity), and two TOPFINDER curves, labelled T1 and T2. T1 is launched at cum volume=0, and thus is the topfinder counterpart of S1. T2, on the other hand is launched at the point (cumvol around 2.5 million) where the price takes off from the primary and where we ordinarily would therefore start S2. (Again to keep the graphics simple, I have omitted S2).



Each TOPFINDER curve terminates in a backward "L" representing the extrapolation of the curve to the predicted top. The horizontal line shows how much cumulative volume is left until the top, while the vertical line terminates in a price projection determined by a simple linear extrapolation of the tangent to the topfinder curve at the endpoint of the data set. Recalling that TOPFINDER actually predicts the cumulative volume at which the price should top out, rather than the price itself, it should be borne in mind that the predicted topping price is only an extrapolated estimate, whereas the cum vol is the firm prediction.

I have included two topfinder curves in order to explore the sensitivity of the predicted top to choice of launch point. In each case, I did an independent eyeball fit to the pullbacks subsequent to launch. Thus, T2 tries to fit the minor pullbacks around cumvol=3.5 million, whereas T1 tries to fit the main pullback points starting at cumvol=3 million. It is quite remarkable that a single value of D can do so well in each case, and it is gratifying that the two agree so closely in their predictions of the top. (By dividing the predicted cumulative volume left to go by the average daily volume during the past fifty days, we arrive at an estimate of 36 trading days to the top).

While the LSI Midas graph was generated by a Lotus 123 spreadsheet macro, the second figure - for EMC Corp - was produced by a Windows application called WINMIDAS. This software, written by my colleague Dr. Stokes Fishburne, performs the topfinder and S/R computations "on the fly" in C++, so that one is able to move the launch points and adjust D by simply clicking and dragging the mouse - with the S and T curves instantly adjusting to these changes!



We have seen EMC before in article #5, which was written just after the launch of S2 in the current figure (labelled S3 in the earlier article). The failure of the price to pullback to S2 was the clue to try TOPFINDER and it is seen that T2 fits all the pullbacks quite well. As indicated in the lower left hand corner of the figure, the cumulative volume left to go is predicted to be 984, 674 round lots or 98,467,400 shares - about 62 trading days worth at the current level of activity. The extrapolated price at the top is 31 3/8. If EMC follows this script, then we would expect a pullback to S2 which, at that point would be in the 22-23 range.

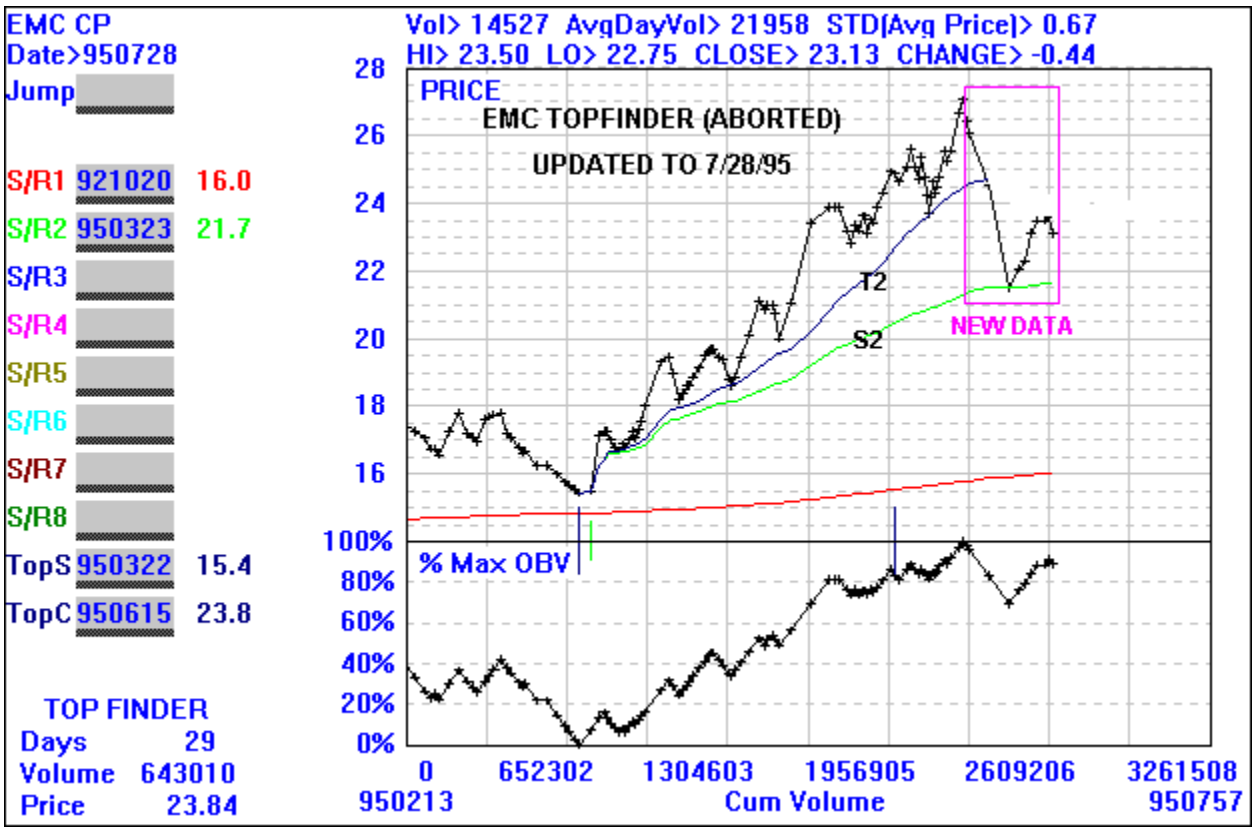
Having thus ventured into the future on a few individual stocks, in the article to follow we see what happens when we apply TOPFINDER to broad market indices like the S&P 500 and the Dow 30 - a topic of particular interest since the predicted tops are imminent!

POSTSCRIPT:

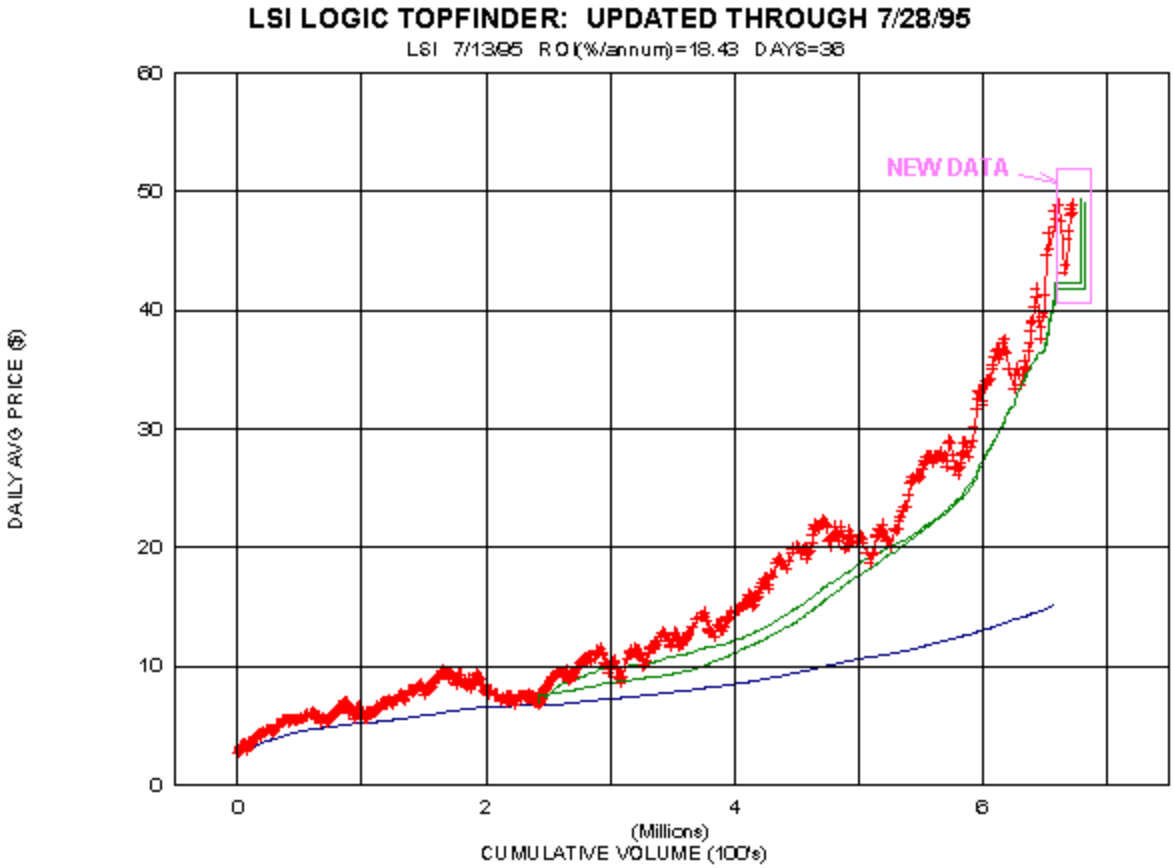
The above article was written on July 13, 1995; it is now July 29th. The intervening 16 days have included the sharp (130 Dow points) selloff of July 19th in which the "tech" stocks were particularly hard hit.It is interesting to see how TOPFINDER fared in the face of this selloff for our examples (LSI and EMC - both tech stocks).

There are, in general, three possible outcomes of a market sell-off on TOPFINDER. Usually, the effect is to shift the top further into the future, readjusting as it were the constant D to accommodate a pullback deeper than had been anticipated. (One may use the analogy of a minor earthquake which has the effect of releasing some of the pent-up stresses thereby buying some additional time before the "big one" hits).

Alternatively, the trauma may be sufficiently severe to abort the "launch" entirely - in the rocket metaphor of article #12. This is what happened with EMC. As seen in the third figure, the price pulled back exactly to "earth" (S2) as anticipated.



Or, TOPFINDER can take the selloff in stride. This may be what is happening with LSI. As seen in the fourth figure, the current price is quite close to the predicted top although some volume remains before burnout. To be sure, the pullback did penetrate the TOPFINDER curve somewhat (as would have been evident if we had updated it) and some readjustment of D may have been in order. For the present, the jury is still out but a verdict will be forthcoming shortly. In either event, it is quite often the case - as it is here - that TOPFINDER provides remarkably accurate price projections even if the top should turn out to occur later than anticipated.



Return to Investment Research

Paul Levine first became interested in technical analysis when he was a "runner" on Wall Street as a high school student. After graduating from MIT and gaining a PhD in theoretical physics from CalTech, he took a fresh look at the problem some thirty years ago and stumbled upon what has now evolved into the Midas method. Following retirement as Chief Scientist and a co-founder of Megatek Corporation in 1981, he developed further elaborations of the method and is now in his fourth year as a professional trader. He can be reached via e-mail at **WinMidas website**">**winmidas@winmidas.com or visit the WinMidas website**.
